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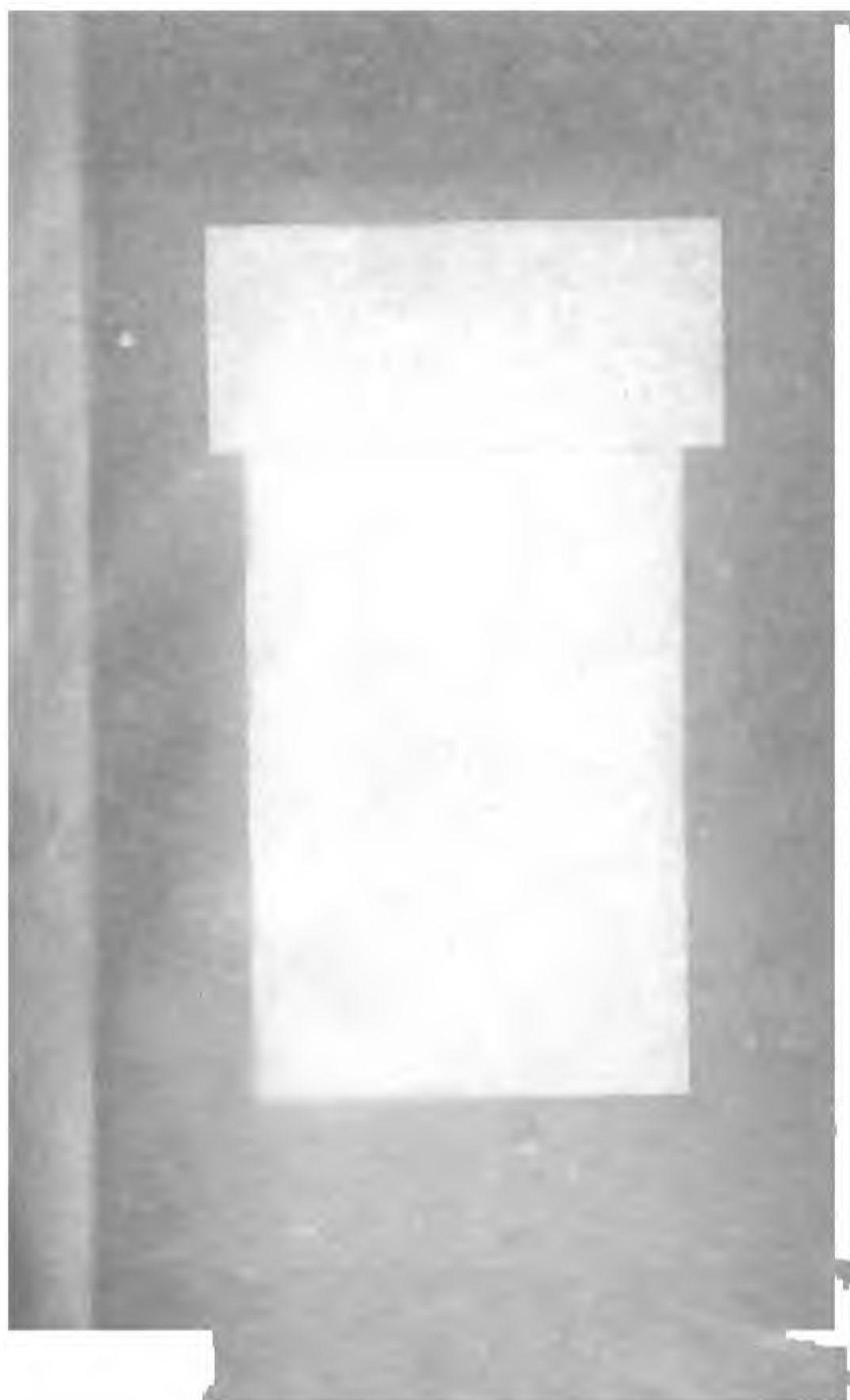
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**A STUDY OF
STATE AID TO PUBLIC SCHOOLS
IN MINNESOTA**

BY

RAYMOND ASA KENT

**Submitted in partial fulfillment of the requirements
for the degree of doctor of philosophy, in the Faculty
of Philosophy, Columbia University**

1918

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A STUDY OF STATE AID TO PUBLIC SCHOOLS IN MINNESOTA

CHAPTER I PROBLEM AND DATA

A. PROBLEM

The biennial Legislature of Minnesota in April, 1913, created a Public Education Commission "to make careful study and investigation of conditions in this state with respect to public education, including the public school system and public educational institutions, and the relation of the educational institutions one to another and to the public school system; to recommend a general plan for the organization and administration of public education and public educational institutions. The general purpose of the Commission shall be to effect economy and efficiency with respect to the several branches of public education in this state."¹

The Governor appointed as members of this Commission: W. D. Willard, cashier, First National Bank, Mankato; W. G. Crosby, attorney, Duluth; J. A. DuBois, physician, Sauk Centre; Marie Lovsnes, county superintendent of schools, Norman County; W. F. Webster, principal of East High School, Minneapolis; J. A. Hartigan, president Farm Mortgage Bond Company, St. Paul; C. G. Schulz, state superintendent of education. The Commission organized in June by electing W. D. Willard as chairman, and the writer of this study as secretary.²

The report of the Commission³ does not include any comprehensive statement of the method or of the data on which its conclusions and recommendations were founded. After the Commission had concluded its work the data compiled were placed on file in the office of the State Superintendent of Education.

As stated above, the work of the Commission was "to effect economy and efficiency with respect to the several branches of public education in the state." A part of the problem was to determine where economy could be most reasonably looked for and how the test of efficiency could be applied. So far as these problems affect the state one would naturally think of them first as applying to the funds which the state distributes as its share of the support "to the several branches of public education."

Especially does this application seem the proper one in the light of the total amount of money thus involved annually. "Minnesota's permanent school fund . . . is now, in round figures, \$25,000,000, and is expected to reach \$100,000,000, or even \$200,000,000, from the sale of

¹ *General Laws of Minnesota, 1913* ch. 571.

² *Report of the Minnesota Public Education Commission, 3, 7.*

³ *State of Minnesota, Public Education Commission, Report to the Governor.*

school lands and timber and the royalties on iron ore.⁴ The income is approximately \$1,000,000 a year."⁵

"The state adds to the current school fund for distribution in the same way, the proceeds of a one-mill tax, which now yields above \$1,250,000 a year."⁶

"State aid to schools for special purposes, now amounting to \$2,000,000 a year, is distinct from the school funds and is given from the general revenue funds."⁷

Here, then, is a total of four and a quarter millions of dollars given by the state each year to its public schools.

Plainly and simply asked, the inquiry becomes: What is the effect of state aid? Is state support securing satisfactory results commensurate with the amount of money given? These questions have never been answered. When one tries to secure evidence outside of Minnesota that might help in answering them, one finds a similar dearth of information. State aid to high schools was begun as early as 1871, in Maine.⁸ Wisconsin was the second⁹ and Minnesota was the third state in the Union to make such provision,¹⁰ but up to the time of this investigation, as far as we know, a careful study had never been made as to how state aid was actually affecting public schools. So far as we know no aims that have been set up and no statements of accomplishments in connection with state subsidy of public education have been based on any careful, intensive study. The Commission, therefore, was face to face with finding its own answer to its inquiry.

FORMS OF AID

As will be explained more in detail in Chapter II, there are two general forms of state aid. The first is the current school fund, which is distributed to all schools, irrespective of their classification, number of departments, enrollment, or any factor,¹¹ except the number of children between six and twenty-one years of age attending public school forty days or more during the year.¹² The second form of aid includes special aid to each of the following groups of schools:

1. High schools
2. Graded schools
3. Semi-graded schools
4. Rural schools
5. Consolidated schools

⁴ For further explanation see Chapter 2.

⁵ *Report of Minnesota Commission*, 21, 22. See also Appendix C.

⁶ *Report of Minnesota Commission*, 22.

⁷ *Ibid.*

⁸ Johnston and others, *The Modern High School*, 51.

⁹ *Ibid.*, 52.

¹⁰ *Ibid.*, 53.

¹¹ Except the legal length of the school year, which is practically no condition now. See table 35.

¹² References to all legal data are given in Chapter 2.

Aid for special departments in high or graded schools is of three kinds:¹³

1. Aid for departments of teacher training
2. Aid for the three industrial departments—agriculture, shop work, and home economics
3. Aid for agriculture and either shop work or home economics

The ramifications of special state aid are complex. They have become so because a school may receive more than one form of special aid.¹⁴ But whatever the combinations of aid received, for purposes of aid distribution, all schools are classed in one of the fundamental divisions of high, graded, semi-graded, or rural.

Inasmuch as special state aid to industrial departments comprises so large a part of state support to high schools,¹⁵ this particular form of aid was made a special part of the investigation and a separate chapter of this report is devoted to it.

Among the forms of special departmental aids we are not particularly concerned here with the one for teacher-training departments. These departments sustain relations to the high school, to the community, and to the state entirely different from the other specially aided departments. They were not established, nor are they maintained, for the benefit of the local community, for the children of the community, or for the pupils of the high schools of the state. Their primary purpose was and is to benefit the rural schools of the state.¹⁶ High school, high school community, and pupil benefits are quite secondary to their aim. For this reason the state has from their inception consistently pursued the policy of almost if not quite complete support of such departments. They exist for the state as distinct from the community. Notwithstanding their tremendous importance, the money spent for them has such different purposes to serve from those of other funds about which we are here concerned that teacher-training departments are considered only incidentally. In determining the total amount of state subsidy which a high school district received in a given year, special aid for teacher-training departments, therefore, has not been included.

Our problem, then, becomes one of a study concerning state aid to

1. Certain separate groups of schools
2. Special departments of work

We wish to find out: first, what these schools or departments receive in special aid from the state; second, what the effect of this aid is upon the schools or departments; third, whether the aid now given is productive of educational "efficiency" and "economy."

¹³ For changes in force in 1915, see Appendix B.

¹⁴ This fact is made clear in Chapter 2.

¹⁵ Only two graded schools, one at Lewiston and one at Westbrook, had taken advantage of this support up to the time of this study. See *Eighteenth Annual Report of the Inspector of State High Schools*, 39; *Nineteenth Report*, 34, 35; and *Twentieth Report*, 52, 53.

¹⁶ See *Thirteenth Annual Report of the Inspector of State High Schools*, 37.

The problem is treated in two aspects. One chapter is devoted to a brief historical summary of the legislative enactments which relate to state support of public education since Minnesota was created a territory. By far the greatest proportion of the report, however, deals with the problem from a study of its statistical aspects.

In the remaining chapters, therefore, the following divisions of subject matter are treated:

- a. Historical summary of legislation concerning state support.
- b. Special state aid to high schools.¹⁷
- c. Special state aid to graded schools.
- d. Special state aid to rural schools.
- e. Special state aid to industrial departments.

B. DATA

SOURCES OF DATA

In trying to determine what facts should be collected from which the desired information might be obtained, it was soon discovered that certain basic information was as essential concerning one group of schools as concerning another. In the beginning, therefore, there was no need to divide the schools into the three main groups in seeking information.

The latest school year for which data were then available was 1912-13. That year there were 216¹⁸ high schools and 217¹⁹ graded schools in Minnesota receiving state aid. It seemed quite feasible to attempt to collect information from each of these several schools. On the other hand, there were over 7,500²⁰ districts maintaining schools classified as semi-graded and rural. To collect the desired information from each of these districts was impracticable and unnecessary. Some plan of selecting typical rural schools, chosen from the various parts of the state so as to be truly representative of the entire state would satisfy the purpose, require much less work, and give quite as satisfactory results as to attempt to include all of the 7,500.

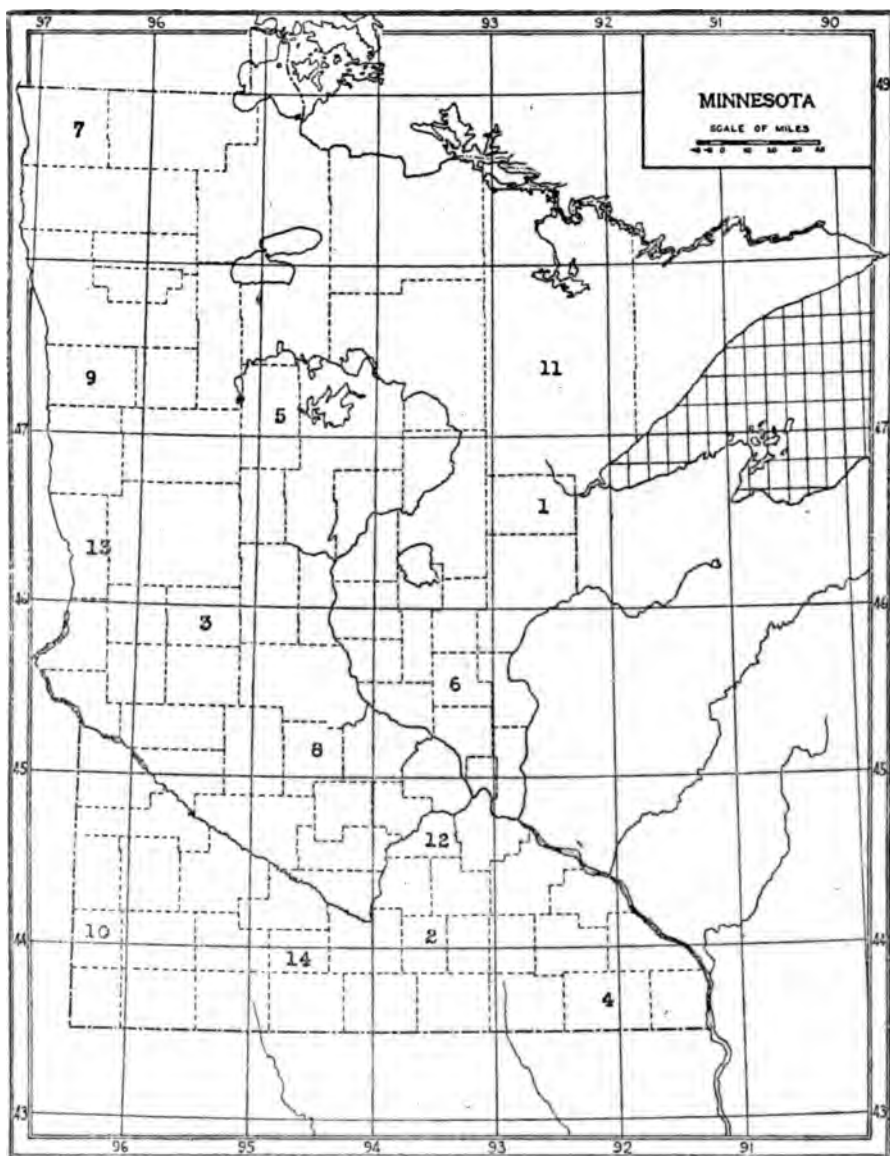
The plan finally adopted was that of selected counties. The state as a whole was surveyed. Certain counties distributed over the state were chosen because they were representative of the whole state—geographically; educationally, so far as rural schools were concerned; economically; industrially; and socially, as to distribution of population. The number of such counties that should be included was not fully decided upon until the selection had been fairly well determined. It was then decided that fourteen counties would satisfy the conditions and needs of

¹⁷ Each of the school divisions will be described in detail in the next chapter.

¹⁸ *Twentieth Annual Report of the Inspector of State High Schools*, 36.

¹⁹ *Eighteenth Annual Report of the Inspector of State Graded Schools*, 8.

²⁰ *Eighteenth Biennial Report, Superintendent of Public Instruction*, 16.



Fourteen counties used in rural school computations

- | | | | |
|------------|-------------|--------------|---------------|
| 1. Carlton | 4. Fillmore | 7. Kittson | 10. Pipestone |
| 2. Dodge | 5. Hubbard | 8. Meeker | 11. St. Louis |
| 3. Douglas | 6. Isanti | 9. Norman | 12. Scott |
| | 13. Wilkin | 14. Watonwan | |

the problem. The location and names of the fourteen counties are shown in the accompanying outline map of Minnesota.

Table I shows one of the pages used for the tabulation of the data first collected. The first space to the left gives the number of each district. In column 1 is stated the total enrollment of each school for the school year 1912-13. Column 2 gives the number of pupils enrolled for whom the current fund money was given their district for 1912-13—that is, the number of pupils who attended school in each district forty days or more that year. Column 3 gives the number of total days attendance for the pupils in each district. Column 4 gives the average number of days attended per pupil enrolled. Column 5 states the number of teachers employed in each district that year.²¹ Column 6 contains the sum of the figures for the same district as listed in columns 7 and 8. Column 8 states the amount of money raised by special school tax levied upon the assessable property of the district for the year 1912-13. Column 7 contains the sum of the figures for the same district as listed in columns 9 and 10. Column 9 states the amount paid the district by the state because of the number of pupils listed in column 2—that is, it states the amount of the current school fund which the district received for 1912-13.²² Column 10 states the amount of special aid which the districts received for the same year. Column 11 gives the assessed valuation of the districts, and column 12 is the rate of special local school tax in mills. The figures in the first five columns were obtained directly or indirectly from the original reports of the county superintendents, which were on file in the office of the State Superintendent of Public Education. The figures in column 2 are those which were actually used by the State Department of Education for distribution of the state apportionment fund. The figures in columns 11 and 12 were furnished directly to the Commission at its request by the county auditor of every county of the state on the blank shown in Table II. The amount in column 8 was in every case secured by multiplying the assessed valuation by the rate of special school tax. The amounts in columns 9 and 10 were taken directly from the original lists on file in the office of the State Superintendent. Column 13 states the per cent which the amount in column 7 is of the total amount in column 6, that is, the proportion (per cent) that all money received from the state is of a district's total school revenue for support in 1912-13.²³ The information covered by the

²¹ Number of annual teaching positions. If one instructor worked four months and another five, in the same district, this counts as only one for the year.

²² In discussing any class of schools the current fund is treated as part of the total state aid. For the year which this study covers it amounted to about \$5.30 per annum per child attending forty days. This is a large enough part of the total per capita cost to be considered of material value to the local community in supporting its schools. The fact that the method of distribution of the current fund is different from that employed in the case of any other aid given is no reason for studying this fund separately from special state aid.

²³ None of these figures includes the amount raised for bonded indebtedness. The county auditors did not include in the special local school tax the amount of mills levied because of bonded indebtedness.

DISTRICT	BASIC DATA					State aid at present	Per cent of state aid to total at present	REMARKS
	Enrollment		Days attendance		Teachers			
	Total	For apportionment	Total	Average per pupil	Number			
Rural	1	2	3	4	5			
85	17	15	1,270	115	1	\$169	30.6%	Class B
86	37	31	2,816	76	1	299	35.2	Class A
87	17	16	1,538	90	1	175	35.8	Class B
88	18	18	1,543	85	1	163	34.9	Class C
89	26	22	2,301	88	1	117	27.0	.....
90	15	9	644	43	1	48	10.5	.....
91	17	16	1,899	112	1	220	48.7	Class A
92	17	15	2,014	118	1	169	39.1	Class B
93	19	17	2,131	111	1	225	36.0	Class A
94	43	39	5,102	119	1	392	49.0	Class A
95	16	10	1,328	83	1	53	16.8	.....
96	24	24	2,802	116	1	217	48.1	Class B
97	31	30	3,455	111	1	249	39.0	Class B
98	24	19	2,052	96	1	236	26.6	Class A
99	20	10	1,010	50	1	53	18.5	.....
100	19	19	2,532	133	1	236	37.7	Class A
101	11	9	1,167	106	1	48	26.8	.....
102	16	14	1,338	83	1	73	27.8	.....
103	12	11	1,293	117	1	148	36.7	Class B
105	18	16	1,968	109	1	153	35.6	Class C
106	19	16	2,118	111	1	175	34.6	Class B
107	24	22	2,578	107	1	257	23.0	Class B
109	11	7	669	61	1	37	13.1	.....
110	25	21	2,385	95	1	246	40.0	Class A
111	16	13	1,809	106	1	159	33.6	Class B
113	3	3	232	77	1	16	5.16	.....
114	10	9	1,166	116	1	138	34.9	Class B
115	29	29	3,327	115	1	294	49.0	Class B
116	25	23	3,063	123	1	307	45.0	Class A
117	11	10	1,054	95	1	103	21.0	.....
118	20	12	1,390	70	1	64	15.1	.....
119	*	*	*	*	*	*	*	Jt. Olmsted
120	17	12	1,520	89	1	199	35.5	Class A and Mower
121	14	14	1,653	113	1	164	28.3	Class B
122	14	11	1,466	104	1	193	39.7	Class A
123	11	8	1,077	98	1	104	22.2	Class B
124	30	30	3,148	105	1	249	28.9	Class B
125	25	21	1,941	78	1	246	43.7	Class A
126	20	17	1,805	90	1	180	50.1	Class B Jt. Mower
127	18	18	2,143	119	1	230	45.0	Class A Jt. Mower
128	9	9	1,279	142	1	138	26.7	Class B
129	23	16	2,081	90	1	175	22.1	Class B
130	21	18	1,746	83	1	95	17.3	.....
131	29	19	2,134	73	1	191	41.7	Class B
132	8	7	1,025	128	1	92	19.0	.....

* No school.

above outline was secured for as many as possible of the rural schools in the fourteen counties.

The number of rural districts which it was finally possible to include from each county chosen is as follows:

1. Carlton.....	23
2. Dodge.....	74
3. Douglas.....	88
4. Fillmore.....	166
5. Hubbard.....	61
6. Isanti.....	62
7. Kanabec.....	61
8. Meeker.....	86
9. Norman.....	91
10. Pipestone.....	66
11. St. Louis.....	51
12. Scott.....	63
13. Watonwan.....	54
14. Wilkin.....	65
	<hr/> 1,011

TABLE II

..... COUNTY

I certify that the following is a correct statement of the school tax^r rate and assessed valuation for the school districts of..... County for the school year ending July 31, 1913.

Signed

.....
County Auditor.

SCHOOL DISTRICTS

Include in the special school tax the local 1-mill but not the state 1-mill.

NAME OR NUMBER	ASSESSED VALUATION	SPECIAL SCHOOL TAX	NAME OR NUMBER	ASSESSED VALUATION	SPECIAL SCHOOL TAX

Information similar to the above was obtained also for as many as possible of the graded school districts and the districts maintaining high schools. In these two latter groups, out of all the districts maintaining

graded schools, 206 were finally included; and out of all the high school districts, 197 were included.

Most of the basic data concerning special departments in the high schools were secured from the original reports sent by the schools to the State Inspector of High Schools.²⁴ A copy of one of these report-blanks is shown in Table III.

The distribution of the time of the instructors in departments receiving special aid was checked by correspondence with the superintendents of the several schools involved.

Other data are to be found in this study. The sources of such data are stated at the appropriate places.

TABLE III
Special Instruction Statistics. Return not later than June 15.
INDUSTRIAL DEPARTMENTS
OF THE

.....High or Graded School
For the school year 1913-1914

INSTRUCTORS:		INSTITUTION	
<i>Name</i>	<i>Position</i>	<i>Where Educated</i>	<i>Salary</i>
.....	Superintendent	.....	\$.....
.....	Agriculture	.....	.....
.....	Home Economics	.....	.....
.....	Shopwork	.....	.....
			Total \$.....

ENROLLMENT:

<i>Agriculture:</i>	<i>Home Economics:</i>	<i>Shopwork:</i>
High School.....	High School.....	High School.....
Short Course.....	Short Course.....	Short Course.....
Grades.....	Grades.....	Grades.....

EXPENDITURE:

<i>Agriculture:</i>
Salaries (Not including Superintendent).....\$.....
Real Estate.....
Agriculture.....
Home Economics.....
Shopwork.....
Not Classified.....
Total \$.....

Attach a typewritten statement of expenditure showing the outlay in each of the three departments. This statement should be itemized to show in a general way how the money has been spent. It must be certified by the secretary of the board.

²⁴ The use of these reports covering the year 1912-13 was kindly allowed the Commission by Mr. George B. Aiton, at the time State Inspector of High Schools.

TABLE III (Continued)

ASSOCIATION:

No. of associated districts..... Total area of associated districts
..... Area of central district.....

No. of pupils from associated districts in central school..... Amount
of tax contributed by associated districts \$...... Amount of
tuition charged to home districts of non-residents \$......

On page two state service rendered to associated districts.

Let each special instructor add a signed statement (preferably typewritten and on paper of this size) of the methods and the activities of his department, including class work, field work, extension work, meals served, articles of farm utility, school gardens, etc.

Instruction (fill these forms) 1.

AGRICULTURE:

SUBJECT	NUMBER WEEKS	CLASS	ENROLLMENT	LENGTH OF RECITATION

HOME ECONOMICS:

SUBJECT	NUMBER WEEKS	CLASS	ENROLLMENT	LENGTH OF RECITATION

TABLE III (*Continued*)

SHOPWORK:

SUBJECT	NUMBER WEEKS	CLASS	ENROLLMENT	LENGTH OF RECITATION

EXTENSION WORK:

Farmers' Short Course

Length in days of short course..... Attendance.....

Farmers' Institute

Dates when held.....

.....Total attendance.....

Rural Meetings

No. held.....Total attendance.....

Other Meetings, Contests, and Fairs held.....

Signed.....

Superintendent

C. SOURCES OF ERROR

I. RURAL SCHOOLS

1. Some may object to the method by which the districts were selected. A selection by counties, it may be asserted, is less representative of the state than a random selection of the same, or even of a less, number of districts from the entire state with every county represented. The presumption of *representativeness* in several items is the reason why each of these counties was originally chosen. This presumption is verified by the distributions as they appear later in the statistical tables. They approach normal distribution.²⁵

2. The regular meetings of the Legislature are biennial. All forms of special aid received by any of the schools come solely from legislative

²⁵ See also Woods, *The Influence of Monarchs*, 27.

appropriation. It sometimes occurs during the year of legislative recess that the number of schools accepted for a particular form of aid is larger than was contemplated. The aid is then prorated among all those schools that year. The Legislature at its next meeting almost without fail makes up in part or in whole the amount of the previous deficiency, and this deficiency appropriation is distributed during the school year following the legislative session.²⁶

Was 1912-13 a year when such a deficiency might have been distributed as additional state aid? If so, was there such aid actually distributed that year?

The regular sessions of the Legislature are held beginning in January of each odd-numbered year. The Legislature convened in January, 1911.

There was no reimbursement in special aid. There was a deficit to every class of rural school except the semi-graded.²⁷

State apportionment, which is included in this study as a part of the state's contribution to the local district, though it is not special state aid, is in no way affected by legislative appropriation.

The result of the first condition is to make the effects of state aid less noticeable than they would be if the aid had been paid in full. Both positive and negative figures of correlation are smaller than they would be if there had been no deficit for the year which the study covers.

3. The correlation figures are not corrected for attenuation; they are gross. The nature and sources of the data made such correction out of the question.

All scientific work presupposes that the measurements of facts are as nearly accurate as possible. There will, however, in such measurements as these commonly be considerable error in each individual fact of those to be related. One district might have levied a much larger tax one year than ordinarily. For sound reasons another district might have found itself with a greater surplus than usual and so for the year in which we happened to study it, it might have levied a school tax much less than its usual levy.

To correct this kind of an error (called attenuation) arising from chance, it is necessary to have at least two independent measures of the items to be related, or to have data from a larger area. In this case we ought to have data covering two years instead of one year, in all these items.

The result of this lack of attenuation is to make the correlation figures in all probability less than they would have been if corrected for attenuation.²⁸

²⁶ See deficiency appropriation amounts, table at end of Chapter 2.

²⁷ *Eighteenth Report, Superintendent of Public Instruction*, table 1, p. 10.

²⁸ Adapted from Thorndike's *Mental and Social Measurements*, 127-129.

II. HIGH SCHOOLS

1. There is no source of error from selection. Over ninety per cent of the total number of cases were included.²⁹

2. There is no source of error from reimbursement because there were no shortages in aid to be made up to high schools or to any of their departments.³⁰

3. All that has been said with regard to non-attenuation of rural school figures of correlation applies with equal force here.

4. In computing the costs of instruction in high schools there has not always been as accurate a distribution of every instructor's time as could be desired. In figuring the cost of academic instruction there is an equivalent of individual distribution by including all the time of all the instructors. In the cases of special instruction the total time of each instructor was accounted for as far as it could be done. The special reports from the industrial departments to the State Inspector of High Schools included such information in only a negligible number of cases. Definite data for each school were secured through personal correspondence with the school's superintendent. There is probably some error from this source, but it is very small.

5. Statements of expenses in these special departments (see Table III) are not so accurate as one wishes they might be. This is particularly true in the departments of agriculture. Under this division were presumed to be placed expenses for maintenance. By the actual statements of the reports, however, equipment expenses were sometimes included. Where they were so listed they were subtracted. That equipment was included in instances where it was not so itemized, is but to be supposed.

The Commission felt the desirability of securing accurate data here. It realized, however, the impossibility of such an undertaking in the time allotted. In not a few cases, the reports had attached to them some statements of expense from the local boards of education. From examination of these reports and from over ten years of personal acquaintance with school boards of districts from graded to city systems, some of which time has been spent attempting to ferret out separate items of maintenance, support, etc., from the reports of a salaried clerk, the writer believes that under the conditions of school accounting now prevalent in the state these reports are as accurate as are any available for a representative group of high schools in Minnesota. This belief is supported by those with wider and longer experience in the state in these matters than the writer has had.

The crudeness, from the scientific point of view, of such data and the unreliability of results computed from them are fully realized. There are

²⁹ See accompanying list.

³⁰ *Eighteenth Report, Superintendent of Public Instruction*, 10.

some things to be said in favor of including the data, however. In the first place, the presentation of the data so gathered with an understanding of their unreliability, and the reason for the same, may hasten better accounting and the possibility of authentic information for future computations. In the second place, the item of greatest proportion and importance in even such expensive departments as shop work and agriculture is that of salary, and the data on this are reliable. In the third place, these reports are the bases for the distribution of the special state aid to these departments, and therefore, though inaccurate, bear a relation to the amount of aid distributed that is both logical and of significant importance. In the fourth place, some concepts of the respective costs of these departments, inaccurate though they may be, can not but help to clear the situation. We know that the state has been distributing large sums of money for these special departments. Our idea of just how and where this money has been used and how justifiable its local consumption, has been entirely lacking, vague, or based merely on personal opinion. The state has sorely needed standardization in determining these matters. The first step in this direction, short and faltering though it may be, more than justifies itself. In the fifth place, some of these specific items can be and have been compared with and checked by investigations elsewhere. In this way an idea of the nature and of the amount of error can be more definitely and accurately judged.

HIGH SCHOOL DISTRICTS INCLUDED IN THIS STUDY

Ada	Blackduck	Dawson
Adrian	Blooming Prairie	Delano
Aitkin	Brainerd	Deer River
Akeley	Breckenridge	Detroit
Albert Lea	Browns Valley	Dodge Center
Alden	Buffalo	Eagle Bend
Alexandria	Buhl	East Grand Forks
Amboy	Caledonia	Elbow Lake
Annandale	Cambridge	Elk River
Anoka	Canby	Ely
Appleton	Cannon Falls	Eveleth
Argyle	Cass Lake	Excelsior
Arlington	Chaska	Fairfax
Atwater	Chatfield	Fairmont
Aurora	Chisholm	Faribault
Bagley	Clarkfield	Farmington
Barnesville	Cloquet	Fergus Falls
Belle Plaine	Cokato	Fertile
Bemidji	Coleraine	Fosston
Benson	Cottonwood	Frazee
Bird Island	Crookston	Fulda
Biwabik	Dassel	Gaylord

Gilbert	Madelia	Rushford
Glencoe	Madison	St. Charles
Glenwood	Mankato	St. Cloud
Graceville	Mantorville	St. James
Grand Rapids	Maple Lake	St. Louis Park
Granite Falls	Mapleton	St. Peter
Hallock	Marshall	Sandstone
Halstad	Milaca	Sauk Center
Harmony	Minneota	Sauk Rapids
Hastings	Montevideo	Shakopee
Hawley	Monticello	Sherburn
Hector	Montgomery	Slayton
Henderson	Moorhead	Sleepy Eye
Herman	Mora	South St. Paul
Heron Lake	Morris	Springfield
Hinckley	Morton	Spring Grove
Hibbing	Mountain Lake	Spring Valley
Hopkins	New Prague	Staples
Houston	New Richland	Stillwater
Howard Lake	New Ulm	Stephen
Hutchinson	Northfield	Stewartville
International Falls	North St. Paul	Thief River Falls
Jackson	Norwood	Tracy
Janesville	Olivia	Two Harbors
Jordan	Ortonville	Tyler
Kasota	Osakis	Virginia
Kasson	Owatonna	Wabasha
Kenyon	Park Rapids	Wadena
Kerkhoven	Paynesville	Walker
Lake Benton	Pelican Rapids	Waseca
Lake City	Perham	Warren
Lake Crystal	Pine City	Waterville
Lake Park	Pine Island	Wayzata
Lakefield	Pipestone	Welcome
Lamberton	Plainview	West Concord
Lanesboro	Preston	Wheaton
LeSueur	Princeton	White Bear
Le Sueur Center	Red Lake Falls	Willmar
Litchfield	Red Wing	Windom
Little Falls	Redwood Falls	Winona
Long Prairie	Renville	Winthrop
Luverne	Rochester	Worthington
McIntosh	Royalton	Zumbrota
Mabel	Rush City	

III. GRADED SCHOOLS

1. There is no source of error from selection. Nearly ninety-five per cent of all possible cases were included.³¹
2. There was no reimbursement, because there had been no shortage.³²

³¹ See accompanying list.

³² *Eighteenth Report, Superintendent of Public Instruction*, 10.

3. The same principle regarding attenuation holds here as with rural and high school computations.

4. There were no instructional costs computed for graded school districts.

GRADED SCHOOL DISTRICTS INCLUDED IN THIS STUDY

Ashby	Columbia Heights	Grove City
Avoca	Comfrey	Hancock
Audubon	Comstock	Hanley Falls
Badger	Crosby	Hartland
Balaton	Cyrus	Hayfield
Barnum	Dayton	Hendricks
Barrett	Deephaven	Hendrum
Battlefield	Deer Creek	Henning
Battle Lake	Deerwood	Hill City
Baudette	Delhi	Hills
Beardsley	Donaldson	Hofman
Beaver Creek	Donnelly	Hokah
Becker	Doran	Ivanhoe
Belgrade	Dover	Jasper
Bellingham	Dundas	Jeffers
Belview	Dunnell	Kellog
Bertha	Echo	Kimball
Big Falls	Eden Valley	Lakeville
Big Lake	Edina	Lake Wilson
Bingham Lake	Elderton	Lester Prairie
Boyd	Elgin	Lewiston
Braham	Ellendale	Lindstrom
Brandon	Ellsworth	Lowry
Brewster	Elysian	Lynd
Brook Park	Erskine	Madison Lake
Brooten	Evansville	Mahnomen
Browerville	Eyota	Marietta
Brownton	Fisher	Maynard
Bruno	Floodwood	Mazeppa
Buffalo Lake	Foley	Meadowlands
Burtrum	Forest Lake	Medford
Byron	Fountain	Melrose
Campbell	Foxholme	Milan
Canton	Franklin	Montrose
Carlton	Gary	Moose Lake
Carman	Geneva	Morgan
Carver	Gibbon	Morristown
Ceylon	Glenville	Motley
Champlin	Glyndon	Mount Iron
Chokio	Goodhue	Murdock
Clara City	Good Thunder	Nashwauk
Claremont	Granada	Nemadji
Clarissa	Grand Marais	New Auburn
Clear Lake	Greenbush	New London
Clearwater	Green Isle	New York Mills
Clinton	Grey Eagle	Nicollet

North Branch	Ruthton	Triumph
North Mankato	St. Clair	Truman
Nymore	St. Francis	Twin Valley
Oak Park	St. Hilaire	Ulen
Odessa	St. Joseph	Verndale
Ogilvie	St. Paul Park	Vernon Center
Onamia	St. Vincent	Villard
Osseo	Sacred Heart	Wabasso
Parker's Prairie	Sanborn	Waconia
Perley	Saum	Walnut Grove
Peterson	Scanlon	Wanda
Pierz	Sebek	Warroad
Proctor	Silver Lake	Watertown
Raymond	South Haven	Watson
Reading	South Stillwater	Waverly
Richmond	Spooner	Westbrook
Robbinsdale	Starbuck	Willow River
Rockford	Stewart	Wood Lake
Roseau	Swanville	Woodstock
Rosemount	Taylor Falls	Wolverton
Rothsay	Tenstrike	Wrenshall
Round Lake	Tintah	Wykoff
Rushmore	Tower	

D. METHOD

The method of the study, as indicated before, is largely statistical. The historical summary of legislation affecting state aid, which precedes the statistical, is merely a groundwork for the latter. The former, however, describes to us the formal steps by which we have arrived where we are. The latter attempts to clarify the present situation.

The steps taken in the statistical procedure are briefly:

First. The tabulation and summarization of the basic data collected concerning

- a. High schools
- b. Graded schools
- c. Rural schools

This was done in order that clearly defined working *concepts* might be formed concerning each of these groups of schools and the relation of state aid thereto. In the chapters dealing with these respective groups of schools, tables of distribution and central tendencies have been computed in each of the following items:

- a. Number of days attended per pupil per year.
- b. Cost per pupil day of attendance.
- c. State aid per pupil day of attendance.
- d. The proportion that state aid is of the annual maintenance income for schools.

- e. Local school tax.
- f. Assessed valuation per enrolled pupil.
- g. Length of the school year in months.

In addition to these items certain other miscellaneous items have been computed in these chapters.

Second. An attempt has been made to discover whether there are any important *relations* between the factors for the separate groups. This is done by the use of distribution tables and correlation coefficients.

Third. The three groups of schools are compared with respect to the above eight common factors. Comparisons are made in terms of distributions and of central tendencies.

Fourth. The method employed in the treatment of special departments is comparable to the one just described. By distributions of salaries and other items of cost, certain facts are established concerning the expenditure for each of these departments. Comparisons are then made between similar items in different departments.

CHAPTER II

HISTORICAL SUMMARY OF LEGISLATION AFFECTING STATE AID

The aim in this chapter is to present a brief historical statement of the facts concerning state aid to public schools in Minnesota. Territorial laws, the state constitution, statutory provisions of the state, and High School Board rulings, are considered as they affect each of the three groups of schools to which state aid is given.

TERRITORIAL PROVISIONS

The Organic Act which created the Territory of Minnesota was passed in 1849.¹ This act provided that two sections in each township be reserved as public school land.² A territorial act of the same year provided that the county commissioners should levy an annual tax of one-fourth per cent, or two and one-half mills, to be apportioned in proportion to the number of scholars between four and twenty-one years of age in each district.³ Two years later it was voted that if this tax was insufficient the balance could be raised by levying upon the taxable property of the districts or by a fifty-cent tax on each male inhabitant between twenty-one and fifty-five years of age, as might be directed at the school meeting.⁴ In 1854 the apportionment by the county was limited to districts in which school had been taught for at least three months during the year preceding.⁵

STATE PROVISIONS

I. GENERAL AID OR CURRENT SCHOOL FUND

In 1858 Minnesota was admitted as a state.⁶ The constitution provided⁷ that the principal of all funds arising from the sale of lands granted for educational purposes should "forever be preserved inviolate and undiminished,"⁸ and that the income from the lease or sale of such lands be distributed to the different townships "in proportion to the number of scholars in each township, between the ages of five and twenty-one years."⁹

The general laws of 1861 provided that "the principal sum arising from all sales of school lands shall remain a perpetual school fund in the state

¹ *Minnesota Legislative Manual*, 1911, 11.

² *Ibid.*, sec. 18, also Authorizing Act, sec. 5.

³ *Laws of Minnesota*, 1849 ch. 7, sec. 2.

⁴ *Ibid.*, 1851 ch. 29, sec. 16.

⁵ *Ibid.*, 1854 ch. 20, sec. 3. A good brief historical account of Minnesota is given in Young, *Civil Government of Minnesota* ch. 2.

⁶ *Legislative Manual*, 1911, 62.

⁷ *Ibid.*, 25 et seq.

⁸ *Ibid.*, 45, *State Constitution* art. 8, sec. 2.

⁹ *Ibid.*

and shall not be reduced by any charges or costs of officers, by fees or by any means whatsoever."¹⁰

"All moneys received as interest on such permanent fund, or rents on leased lands, shall constitute the current school fund of the state, and shall be distributed by the state superintendent among the several counties of the state in proportion to the number of scholars therein between the ages of five and twenty-one years."¹¹

In 1877 the income from the state school funds was directed to be apportioned among the several counties of the state on the first Mondays of March and October each year in proportion to the number of scholars between five and twenty-one enrolled in schools which had been in session at least three months during the previous year.¹² In 1877 the *county* tax was changed from a two-and-one-half-mills to a one-mill tax which was to be returned to the districts in the same proportion as it had been paid.¹³ This provision made the county tax in reality a compulsory part of the local support. In 1887 a *state* one-mill tax was added to the income from the general school fund.¹⁴ The money raised by this tax was to be called the "State School Tax Fund," and this money, together with the income from the general school fund, was to be called the "current school fund."¹⁵

The same year (1887) the Legislature defined more explicitly the meaning of the word "scholar" which is used in the constitution for the basis of the distribution of the apportionment. Evidently the constitution did not mean to make school population the basis for this distribution. The Legislature therefore directed that all the current fund should be distributed "in proportion to the number of scholars between the ages of five and twenty-one years who have been enrolled and have been in attendance forty days in the public schools."¹⁶ The same statute provided that all schools receiving such funds should be in session not less than five months the year preceding the distribution of the aid.

II. STATE AID TO HIGH SCHOOLS

In 1878 the "High School Board" was created.¹⁷ It consisted of the Superintendent of Public Instruction, the President of the University *ex officio*, and one member appointed by the Governor.¹⁸ The same act

¹⁰ *General Laws*, 1861 ch. 14, sec. 41.

¹¹ *Ibid.*, sec. 42.

¹² *Ibid.*, 1877 sec. 1, sub-ch. 5 of ch. 74.

¹³ *Ibid.*, sec. 10, sub-ch. 5 of ch. 74.

¹⁴ *Ibid.*, 1887 sec. 3, sub-ch. 5 of ch. 41. (Amending sec. 84 of ch. 36, *General Statutes*, 1878.)

¹⁵ *Ibid.*

¹⁶ *Ibid.*, sec. 1, ch. 41. (Amending sec. 75 of ch. 36, *General Statutes*, 1878.) See also discussion in Kiehle, *Education in Minnesota* ch. 2.

¹⁷ *Ibid.*, 1878 ch. 92, sec. 1.

¹⁸ *Ibid.*

provided special aid of \$400 to each high school¹⁹ meeting the following requirements:²⁰

"*First*, that there shall be regular and orderly courses of study, embracing all the branches prescribed as prerequisite for admission to the collegiate department of the University of Minnesota, not lower than the third, or sub-freshman class. (Note 1.)"²¹

"*Second*, that the said school receiving pecuniary aid under this act, shall at all times permit the said board of commissioners, or any of them, to visit and examine the classes pursuing the same preparatory courses." (Note 2.)

Schools receiving the aid were to admit both sexes free of tuition, but non-residents might be required to pass examination in all subjects required for first grade teacher's certificate except algebra, plane geometry, and the theory and practice of teaching.²² (Note 3.)

Each school receiving the aid was to be visited by one or more commissioners of the Board at least once annually, or by some competent person appointed by the Board and who was to report to them.²³ The Board was given power "to establish any necessary and suitable rules and regulations relating to examinations, reports, and other proceedings, under this act."²⁴ (Note 4.) A total of \$9,000 was appropriated to cover all the expenses incurred in the administration of the act and the subsidies granted to the high schools for the same purposes.²⁵

The next year a total of \$20,000 was appropriated.²⁶

In 1881²⁷ the act of 1879 was amended in such a form as to make the appropriation an annual one.²⁸

At a special session of the Legislature, held the same year (1881), the High School Board was reorganized.²⁹ The act provided that "the High School Board shall have full discretionary power to consider and act upon applications of schools for state aid, and to prescribe the conditions upon which said aid shall be granted, and it shall be its duty to accept and aid such schools only as will in its opinion, if aided, efficiently perform the service contemplated by law, but not more than three schools shall be aided in each county in any one year. Any school once accepted and continuing to comply with the law and the regulations of the Board made in pursuance thereof, shall be aided not less than three years."³⁰ The act

¹⁹ *General Laws*, 1878 ch. 92, sec. 5.

²⁰ *Ibid.*, sec. 3.

²¹ Notes referred to are in Appendix A.

²² *General Laws*, 1878 sec. 2.

²³ *Ibid.*, sec. 4.

²⁴ *Ibid.*, sec. 7.

²⁵ *Ibid.*, sec. 5.

²⁶ *Ibid.*, 1879 ch. 27, sec. 2.

²⁷ Since 1879 the legislature has met in regular session in only the odd years, see chapter 23 of *General Laws*, 1878.

²⁸ *General Laws*, 1881 ch. 144, sec. 5.

²⁹ *General Laws of Special Sessions*, 1881 ch. 61.

³⁰ *Ibid.*, sec. 1.

fixed the compensation of an "assistant examiner" but provided that "no compensation shall be paid to any person receiving salary from any state institution."³¹ (Notes 5 and 6.)

In 1883 the maximum number of schools that could be aided in one county was increased from three to five,³² and \$3,000 was added to the previous annual appropriation,³³ making a total of \$23,000. (Note 7.) This act stood unchanged for four years. (Notes 8, 9, and 10.) In 1887, \$2,000 was added to the appropriation,³⁴ thereby raising the total amount available annually to \$25,000. In 1893, \$7,000 more was added.³⁵ (Notes 11, 12, 13, 14.)

Eighteen ninety-seven saw \$10,000 added to annual high school aid,³⁶ making a total of \$42,000.

In 1899 the Legislature made more explicit the conditions prerequisite for receiving state aid. In order to receive high school aid the school must have been maintained at least nine months during the year preceding.³⁷ Students of either sex, residents of any part of the state, must be admitted free of any tuition, and non-residents were admitted only after having satisfactorily passed examinations in all the common branches pursued and completed in the eight grades of the common schools. To receive aid, high schools must have regular and orderly courses of study, embracing all branches prescribed by the State High School Board, as prerequisite for admission to the collegiate department of the State University.³⁸ Finally, the school must be subject to the rules and regulations prescribed by the High School Board, and be opened to visitation by any member of the Board or the High School Inspector at all times. (Note 15.)

State aid was raised from \$400 to \$800 for each high school approved for aid.³⁹ (Note 16.)

To carry into effect the above provisions the Legislature appropriated \$85,000 annual aid to high schools.⁴⁰ Nine thousand five hundred dollars of the appropriation for high and graded schools was set apart to defray the expenses incurred by the board in inspection and in otherwise administering the act.

The legislature of 1901 raised the aid for each high school to \$1,000,⁴¹ and appropriated \$15,000 for aid and expenses, the same amount (\$9,500) being similarly reserved as in 1899.

³¹ *Ibid.*, sec. 2.

³² *General Laws*, 1883 ch. 40, sec. 1.

³³ *Ibid.*, ch. 151, sec. 1.

³⁴ *Ibid.*, 1887 ch. 256, sec. 1.

³⁵ *Ibid.*, 1893 ch. 101, sec. 1.

³⁶ *Ibid.*, 1897 ch. 155, sec. 6.

³⁷ *Ibid.*, 1899 ch. 352, art. 2, sec. 7.

³⁸ *Ibid.*

³⁹ *Ibid.*, sec. 9.

⁴⁰ *Ibid.*, 1899 ch. 352, art. 5, sec. 28.

⁴¹ *Ibid.*, 1901 ch. 189, sec. 1.

In 1903 individual high school aid was raised to \$1,500.⁴² The appropriation, with the \$9,500 reservation as two and four years previous, was \$217,000. (Notes 17 to 21.)

In 1905 the High School Board was given *full* discretionary powers to supervise and to prescribe conditions under which aid should be given to high schools, except not more than seven schools in the same county could receive such aid, and aid was to be given any schools not less than two years in succession if regulations were complied with.⁴³

In 1909 individual aid was raised to \$1,750 per school.⁴⁴ In 1909 and 1911 special aids to industrial work were granted. (See section V of this chapter.) Association aid came at the latter date. (Notes 22 to 31.)

III. GRADED SCHOOL AID

Special Aid

The first aid for graded schools was authorized in 1895, to be administered under the supervision of the High School Board.⁴⁵ Each school was to receive \$200 annually.⁴⁶ An appropriation of \$10,000 was voted for the purposes of the act.⁴⁷ (Notes 32 to 35.)

In 1899, when conditions for receiving high school aid were made more explicit by the legislature, the conditions to be met by graded schools to be entitled to aid were stated by the legislature to be:⁴⁸

1. A school session of at least nine months.
2. A school well organized, with at least four departments in charge of a principal and teachers having the qualifications stipulated by the High School Board. The principal, however, was required to be a graduate of the advanced course of a state normal school, or of the academic or pedagogical department of a reputable college or state university, or have a first grade certificate or a state professional certificate.
3. Suitable buildings, library, and other apparatus necessary for doing efficient work.
4. Regular and orderly courses of study taught, and all branches required by the State High School Board.

Another feature of the law of 1899 provided that no graded school connected with, or in the same district with, a high school receiving state aid, should receive any aid for graded schools.⁴⁹

In 1901 aid was raised to \$400 for each school, and the annual appropriation was made \$52,000.⁵⁰ (Note 36.)

⁴² *General Laws*, 1903 ch. 184, sec. 1.

⁴³ *Ibid.*, 1905 ch. 320, sec. 1.

⁴⁴ *Ibid.*, 1909 ch. 334, sec. 1.

⁴⁵ *Ibid.*, 1895 ch. 183, sec. 1.

⁴⁶ *Ibid.*, sec. 2.

⁴⁷ *Ibid.*, sec. 3.

⁴⁸ *Ibid.*, 1899 ch. 352, art. 3, sec. 12.

⁴⁹ *Ibid.*, sec. 14.

⁵⁰ See statement regarding \$9,500 expense fund, *General Laws*, 1901 ch. 189, sec. 2, 5.

In 1903 the aid was raised to \$550 per school⁵¹ and the appropriation was made \$79,000.⁵² (Notes 37 to 40.)

In 1909 individual aid was made \$600.⁵³

In the same year (1909) \$500 was authorized for each graded school maintaining a course equivalent to two years of high school work. Such aid was to be paid from the appropriation for high schools and graded schools in as nearly proportionate amounts as might be. (*General Laws*, 1909, ch. 444.) This aid was to be given under the supervision of the High School Board. (Notes 41, 42, and 43.)

Industrial aid of \$2,500 per school, granted in 1909, and \$1,000 per school, granted in 1911, applied also to graded schools. (See section V of this chapter.) Association aid came at the latter date.

IV. RURAL SCHOOL AID (NOTES 44 AND 45.)

Aid to Semi-graded Schools

In 1899, twenty-one years after the first act granting special aid to high schools, and four years after graded schools had been subsidized, the first special aid was granted to country schools.

These schools that might receive aid were divided into two groups. One group were called semi-graded, and were to receive \$100 each from the state annually.⁵⁴

In order to be eligible for such aid a school was obliged to meet all the following requirements:⁵⁵

1. Have an eight months session.
2. Have two departments under teachers of whom one at least should be a graduate of an advanced course of a normal school, or must hold a first grade certificate, or a professional certificate. Other teachers were required to hold a second grade certificate.
3. Have suitable buildings, a library, and necessary apparatus.
4. Have a "regular and orderly" course of study.
5. Comply with the rules of the superintendent of public instruction.
6. Application for aid was to be made by the board to the county superintendent, who was to certify all deserving schools and forward their applications to the state superintendent.⁵⁶

An annual appropriation of \$11,000 was made for this aid.⁵⁷

In 1901 the aid was raised to \$200 per school⁵⁸ and the annual appropriation was made \$25,000.⁵⁹

⁵¹ *General Laws*, 1903 ch. 366, sec. 1.

⁵² *Ibid.*, 1913 ch. 184, sec. 2.

⁵³ *Ibid.*, 1909 ch. 334, sec. 1.

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*, sec. 17.

⁵⁶ *Ibid.*, sec. 18.

⁵⁷ *Ibid.*, sec. 28, art. 5.

⁵⁸ *Ibid.*, 1901 ch. 189, sec. 3.

⁵⁹ *Ibid.*, sec. 5.

In 1903 the aid was placed at \$250 per school,⁶⁰ and the annual appropriation was raised to \$67,000.⁶¹

In 1909 the aid reached \$300 per school.⁶²

In 1911 association⁶³ aid came. This is discussed in connection with industrial aid. (See section V of this chapter.)

By chapter 207 of the Laws of 1911 the Legislature allowed consolidation aid. It established three classes of schools to be formed by consolidation. Those of classes A and B were to have an area of at least eighteen sections. Schools of Class C were to be formed with twelve sections. There was to be possible consolidation including an area of less than twelve sections, but in such case the state aid provided would not apply.

Each consolidated school was to be in session for eight months and was to employ a principal who had special training and preparation for directing the teaching of agriculture and other industrial lines. A school of Class A was to provide a building of four rooms or departments and was to receive state aid of \$1,500. A school of Class B was to provide a building of three rooms and was to receive aid of \$1,000. One of Class C was to be a two-department school and was to receive \$750 aid. Additional aid for the erection of a school building for either class to the amount of twenty-five per cent of the cost and not exceeding \$1,500 was also provided.

The same year the Legislature provided that "the aggregate attendance in days by children in either class of rural schools shall not be made a rule for granting such aid."⁶⁴

Aid to One-Room Schools

The second class of country schools aided in 1899 were called "rural." They were to receive \$75 each per year,⁶⁵ and had the same conditions imposed upon them as semi-graded schools had, except that two departments were not required, and the teacher did not need to hold other than a first grade or professional certificate.⁶⁶

▲ Forty thousand dollars annual aid was their appropriation.⁶⁷

In 1901 the aid was made \$100 for each such school⁶⁸ and the appropriation for such aid, \$60,000.⁶⁹

In 1903 aid was made \$125 per school,⁷⁰ and the appropriation, \$100,000.⁷¹

⁶⁰ *General Laws*, 1903 ch. 366, sec. 2.

⁶¹ *Ibid.*, 1903 ch. 184, sec. 2.

⁶² *Ibid.*, 1909 ch. 334, sec. 1.

⁶³ *Ibid.*, 1911 ch. 91, sec. 1.

⁶⁴ *Ibid.*, ch. 60, sec. 1.

⁶⁵ *Ibid.*, 1899 ch. 352, art. 5, sec. 25.

⁶⁶ *Ibid.*, secs. 23, 24.

⁶⁷ *Ibid.*, sec. 28.

⁶⁸ *Ibid.*, 1901 ch. 189, sec. 4.

⁶⁹ *Ibid.*, sec. 5.

⁷⁰ *Ibid.*, 1903 ch. 366, sec. 3.

⁷¹ *Ibid.*, 1903 ch. 184, sec. 2.

In 1909 the aid was set at \$150 for a rural school fulfilling the conditions above enumerated,⁷³ and \$100 was to be given each school meeting all the requirements except that the teacher held a second grade certificate.⁷³

In 1911 a reclassification of rural schools was made. They were divided as follows:⁷⁴

Class A—Schools having sessions of eight months and having teachers with first grade certificates

Class B—Schools having sessions of eight months and having teachers with second grade certificates

Class C—Schools having sessions of seven months and having teachers with second grade certificates

The aid to these schools was set at:⁷⁵

Not more than \$150 each for schools in Class A

Not more than \$100 each for schools in Class B

Not more than \$75 each for schools in Class C

Association aid, explained later, applied to any of these three groups of schools, as did also the proviso excluding "aggregate attendance" as "a rule for granting such aid."

Finally, there was, in 1911, provided a form of aid that can not be called association, consolidation, or transportation aid. Chapter 167 authorized the school board in any district to provide for the instruction of its pupils in an adjoining district by discontinuing its own schools, or for any grade or department in its own schools, and to provide free transportation for the pupils to another school, the school in the district so closed to receive state aid of \$150, as provided for schools of Class A under Chapter 60.

V. INDUSTRIAL AID

To Separate Schools

In 1905, the same year that special aid was first voted to graded schools, the Legislature provided for the establishment of country schools of agriculture and domestic economy.⁷⁶ The first two schools established and approved by the state superintendent and the dean of the College of Agriculture of the State University were to receive such aid as might be prescribed by law or might be appropriated.⁷⁷

To Separate Departments

There were no country schools established under the act of 1905. In 1909 another plan was passed by the Legislature. It was to be operated

⁷³ *Ibid.*, 1909 ch. 334, sec. 1.

⁷⁴ *Ibid.*

⁷⁵ *Ibid.*, 1911 ch. 60, sec. 1.

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*, 1905 ch. 314, secs. 1-9.

⁷⁷ *Ibid.*, sec. 10.

in direct connection with schools already existing.⁷⁸ High, graded, and consolidated schools were possible beneficiaries.⁷⁹ Each school was to maintain instruction in agriculture, manual training, and home economics.⁸⁰ Each school, so aided, was to maintain a demonstration tract of not less than five acres, suitably located.⁸¹ Instruction was to be free to all residents of the state.⁸² The course of study was to be made out in full and was to cover all the details of agriculture.⁸³ The annual aid might equal two thirds of the cost of the department but was not to exceed \$2,500 per school.⁸⁴ Not more than ten schools were to be so aided the first year, nor more than ten added to the list every two years thereafter,⁸⁵ and not more than one school in any county could be added in any two years.⁸⁶ Twenty-five thousand dollars was the sum appropriated for each of the next two years.⁸⁷ (Notes 46 and 48.)

The next Legislature (1911) provided aid of \$1,000 for every high or graded school that would maintain suitable courses in agriculture and in either home economics, or manual training.⁸⁸ This aid was to be taken from the amounts appropriated for general aid to high and graded schools.⁸⁹ (Notes 47 and 48.)

Association aid was granted first by Chapter 82 of the Laws of 1911. Chapter 247 of the Laws of 1909, had, in connection with providing for special industrial departments and special aid for the same, made association permissive. Association is defined in terms of the law as follows:⁹⁰

SEC. 6. For the purpose of extending the teaching of agriculture, home economics, and manual training to pupils in rural schools, and for the purpose of extending the influence and supervision of state high or graded schools over rural schools, one or more rural schools may become associated with any state high or graded school maintaining a department of agriculture, whether or not such high or graded school has been designated by the state high school board to receive aid under the provisions of this act. Any such state high or graded school shall for the purposes of this act be known as a central school.

SEC. 7. To effect this, proceedings shall be had by petition and election on the part of the rural school, or schools as now provided by law for the consolidation of school districts, and ballots to vote upon this question shall read:

To associate with District No. for the teaching of agriculture and manual training Yes No The district or districts cast-

⁷⁸ *General Laws*, 1909 ch. 247.

⁷⁹ *Ibid.*, sec. 1.

⁸⁰ *Ibid.*, sec. 2.

⁸¹ *Ibid.*

⁸² *Ibid.*, sec. 3.

⁸³ *Ibid.*

⁸⁴ *Ibid.*, sec. 4.

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*, sec. 5.

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*, 1911 ch. 91, sec. 1.

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*, 1909.

ing a majority vote upon the approval of such association by a majority of the school board of the central school become so associated and the rural school or schools together with the central school, shall thereafter be known as the associated schools of . . . for the teaching of agriculture and manual training.

SEC. 8. The members of the various school boards of the associated schools shall meet on the third Monday in June of each year at the central school building to act as a board of review and to examine into the amount of money expended in each department of work herein provided for and to determine the amount of tax which shall be levied on the associated rural school district or districts for the purpose of maintaining courses of instruction as provided in section 2 of this act, and for the purpose of extending such instruction to the pupils of the associated rural schools. Provided, however, that the tax shall not be less than one mill or more than four mills in the various rural school districts in the association and such tax shall be in addition to other general and special school taxes in such rural districts. The amount of such tax shall be certified by the chairman of the meeting to the county auditor to be by him levied against the property in the respective districts and when collected by the county treasurer, such tax shall be paid to the treasurer of the central school who shall furnish the board of review full and detailed statement of all money received and expended.

SEC. 9. The school board of each rural school district associated with a central school under the provisions of this act shall designate one of its members by vote to act with the school board of the central school in carrying out the provisions of this act as to the teaching of agriculture, domestic economy, and manual training in such schools and in all matters pertaining to such instruction, both in the central school and in the associated rural schools, such member shall have equal power with the member of the school board of the central school.

SEC. 10. The principal or superintendent of the central school shall have and exercise the same authority and supervision over the rural schools as over the central school. He shall prepare for the associated rural schools a suitable course of study embodying training and instruction in agriculture and such subjects as are related to farm life and can be taught successfully in rural schools.

SEC. 11. The relationship and obligations between the associated rural school or schools and the central school may be terminated at any annual school meeting by a majority vote of the associated districts, but not until the central school has had at least one year's notice of the intention to vote on the question.

By Chapter 82 of the Laws of 1911, the above was reenacted with the new provisions that \$150 was to be paid to the central school district and \$50 to the rural school district for each rural district associating with a central district. Rural districts associating were also permitted to levy a tax for an industrial building in connection with the central district. The minimum tax levy to be imposed on the associated districts was raised to two mills, and the maximum limit of four mills was removed. Permission was granted also for a tract of land for experimental purposes to be acquired in one or more of the associated districts.

In interpreting this provision the state department makes the following statement: "When a school is closed, as provided under chapter 167, and its pupils are transported to another school, the district of the closed school may receive state aid of \$150, if the pupils are sent to a school that

earns state aid under Class A, rural schools, or to a semi-graded, graded, or high school. The condition of the closed building is not a factor in earning the aid. The district must, however, provide proper transportation for all its pupils to attend another school."⁹¹

VI. RULES IN FORCE, 1912-13

The complete rulings of the High School Board relating to state aid which were in force during the year covered by this study are given in Appendix A in form similar to that in which they were published by the State Department of Education.⁹²

TABLE IV. OUTLINE OF STATE AID DEVELOPMENT

PART I. CURRENT SCHOOL FUND⁹³

YEAR	SOURCES	BASIS OF DISTRIBUTION
1858.....	Annual income from State Public School Funds	Scholars 5 to 21 years of age
1877.....		Scholars, 5 to 21 years of age, attending in schools having at least 3 months session during the year
1887.....	Income from state public school funds and income from a state one-mill tax	Scholars, 5 to 21 years of age, attending at least 40 days, in schools having at least 5 months session during the year

PART II. SPECIAL STATE AID TO PUBLIC SCHOOLS⁹⁴

YEAR	SCHOOLS AND AMOUNTS OF ANNUAL AID				
	High	Graded	Rural		
			"Semi-graded"	"Rural"	
1878.....	\$ 400				
1895.....		\$200			
1899.....	800		\$100	\$ 75	
1901.....	1,000	400	200	100	
1903.....	1,500	550	250	125	
				Class A	Class B
1909.....	1,750	600	300	\$150	\$100
				Class A	Class B
1911.....				\$150	\$100
1913.....	2,000	750			\$75

⁹¹ Department of Public Instruction, St. Paul, *Circular* no. 7. 1911.

⁹² State of Minnesota, *Department of Education Bulletin* no. 45. May, 1913.

⁹³ For what this has amounted to per pupil as actually distributed, see Appendix C, table 4.

⁹⁴ A résumé of only regular lines of work. No aid for departmental work of any kind or for association or consolidation is included.

STATE AID TO PUBLIC SCHOOLS

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PART III. AID TO HIGH SCHOOLS

YEAR	ANNUAL AID FOR DIFFERENT PURPOSES				
	High School	Industrial	Association	Consolidation	Remarks
1878...	\$ 400				
1881...					Limited to 3 in a county
1883...					Limited to 5 in a county
1899...	800				
1901...	1,000				
1903...	1,500				
1905...					Limited to 7 in a county*
1909...	1,750	\$2,500			
1911...		2,500 or 1,000	\$150 per each associated dist.	\$1,500	
1913...	2,000	2,500 or 1,800			

Aid for teacher training departments is in addition to all the above.

PART IV. AID TO GRADED SCHOOLS

YEAR	ANNUAL AID FOR DIFFERENT PURPOSES				
	Graded School	Industrial	Association	Consolidation	H. S. Dept.
1895.....	\$200				
1901.....	400				
1903.....	550				
1909.....	600	\$2,500			\$500
1911.....		2,500 or 1,000	\$150 for each as- sociated district	\$1,000	
1913.....	750	2,500 or 1,800			

* According to the general statutes of both 1905 and 1913 the limit as to number of high schools to receive aid in any one county is seven, although the general laws of 1909 give it as nine. The place where the maximum number was changed from seven to nine can not be found. The general statutes are supposed to be final by court practice.

PART V. RURAL SCHOOL AID
1. "SEMI-GRADED SCHOOLS"

YEAR	ANNUAL AID FOR DIFFERENT PURPOSES		
	Semi-graded Schools	Consolidation	Association
1899.....	\$100	.....	.....
1901.....	200	.....	.....
1903.....	250	.....	.....
1909.....	300	\$750	.....
1911.....	.....	.....	\$150 for each associated district

2. "RURAL SCHOOLS"

YEAR	ANNUAL AID FOR SPECIAL PURPOSES		
	Rural Schools		
1899.....	\$ 75		
1901.....	100		
1903.....	125		
1905..... 1909.....	Class A	Class B	
	\$125	\$ 50	
	150	100	
1911.....	Class A	Class B	Class C
	\$150	\$100	\$75

STATE APPROPRIATIONS FOR PUBLIC SCHOOL AID

Year	High	Graded	Semi-graded	Rural	Normal training	Consolidation	Industrial	Association	Total
1904	212,882 ¹	79,750 ²	190,399	76 ³					483,031
1905	1903 Def.* 15,240 ⁴ 208,650 ⁵	77,700 ⁶	1903 Def. 15,565 ⁷ 2,750 ⁸ 65,780 ⁹	1903 Def. 15,565 ⁷ 2,750 ⁸ 98,361 ¹⁰					484,036
1906	1904 Def. 26,425 ¹¹ 211,200 ¹²	75,000 ¹³	66,744 ¹⁴	1904 Def. 4,145 ¹⁵ 95,835 ¹⁶					479,969
1907	1905 Def. 47,993 ¹⁷ 288,993 ¹⁸	1905 Def. 3,700 ¹⁹ 77,175 ²⁰	1905 Def. 5,760 ²¹ 75,900 ²²	1905 Def. 35,148 ²³ 165,840 ²⁴	8,250 ²⁵				708,959
1908	1906 Def. 71,771 ²⁶ 287,435 ²⁷	1906 Def. 3,600 ²⁸ 79,040 ²⁹	1906 Def. 10,574 ³⁰ 78,200 ³¹	1906 Def. 64,160 ³² 162,305 ³³	7,500 ³⁴				764,585
1909	1907 Def. 9,100 ³⁵ 1908 Def. 19,577 ³⁶ 356,270 ³⁷	1907 Def. 3,675 ³⁸ 1908 Def. 4,560 ³⁹ HS 7,500 97,800 ⁴⁰	1907 Def. 6,600 ⁴¹ 1908 Def. 6,840 ⁴² 100,800 ⁴³	1907 Def. 6,905 ⁴⁴ 1908 Def. 32,775 ⁴⁵ 236,489 ⁴⁶	6,000 ⁴⁷				994,891
1910	360,839 ⁴⁸	For HS. 16,000 ⁴⁹ 103,800 ⁵⁰	102,942 ⁵¹	240,994 ⁵²	21,000 ⁵³		24,509 ⁵⁴		870,084
1911	362,250 ⁵⁵	142,600 ⁵⁶	144,588 ⁵⁷	643,598 ⁵⁸	42,000 ⁵⁹		24,955 ⁶⁰		1,359,991
1912	368,887 ⁶¹	146,400 ⁶²	130,500 ⁶³	461,410 ⁶⁴	60,750 ⁶⁵	64,339 ⁶⁶	146,915 ⁶⁷		1,379,201
1913	378,000 ⁶⁸	130,200 ⁶⁹	121,700 ⁷⁰	565,499 ⁷¹	29,500 ⁷²	10,035 ⁷³	147,322.68 ⁷⁴	18,900.00 ⁷⁵	1,401,156

* "Def." refers to the amount appropriated to cover the deficit for the year indicated.

¹ 13th Biennial Report, In-
complete, 123
² Ibid., 139
³ Ibid., 139
⁴ 14th Biennial Report, 339
⁵ Ibid., 322
⁶ Ibid., 325
⁷ Ibid., 342
⁸ Ibid., 329
⁹ Ibid., 343
¹⁰ Ibid., 333, 336
¹¹ Ibid., 340
¹² Ibid., 324
¹³ Ibid., 327
¹⁴ Ibid., 331
¹⁵ Ibid., 345
¹⁶ Ibid., 345
¹⁷ 15th Biennial Report, 258
¹⁸ Ibid., 334, 338
¹⁹ Ibid., 252
²⁰ Ibid., 263
²¹ Ibid., 252
²² Ibid., 263
²³ Ibid., 259
²⁴ Ibid., 268
²⁵ Ibid., 264
²⁶ Ibid., 277, 282
²⁷ Ibid., 272, 280
²⁸ Ibid., 258
²⁹ Ibid., 258
³⁰ Ibid., 258
³¹ Ibid., 258
³² Ibid., 258
³³ Ibid., 258
³⁴ Ibid., 258
³⁵ Ibid., 258
³⁶ Ibid., 258
³⁷ Ibid., 258
³⁸ Ibid., 258
³⁹ Ibid., 258
⁴⁰ Ibid., 258
⁴¹ Ibid., 258
⁴² Ibid., 258
⁴³ Ibid., 258
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⁶⁷ Ibid., 258
⁶⁸ Ibid., 258
⁶⁹ Ibid., 258
⁷⁰ Ibid., 258
⁷¹ Ibid., 258
⁷² Ibid., 258
⁷³ Ibid., 258
⁷⁴ Ibid., 258
⁷⁵ Ibid., 258

CHAPTER III

SPECIAL AID TO HIGH SCHOOLS

As was explained in Chapter II, a specified amount of state aid is given to districts maintaining high schools, for each such school maintained. The districts receiving this aid receive no special aid for that part of the schools below the high school. The money from the state is paid to the district, and in general practice, turned in with the local general school fund. There is no separate account kept of high school costs except by a very few of the larger cities or in some items by other districts. This method of bookkeeping compels us at this point to consider such general items as tax expense and support, for the whole district instead of for the high school department alone. In another chapter¹ certain items are considered for the high school alone, but in this part of the discussion, unless otherwise distinctly specified, "high school district" refers to the whole district or system of schools in the district and not to that division of the system—the high school proper. The whole system includes the high school and the grades. In an associated district it may include, besides the central system with the two parts above named, one or more one-room schools. The number of districts of the last kind, however, is very small.

We realize that this method is not so desirable as it might be. On the other hand, when one stops to consider that the aid is given to the district as the unit, that the common practice is for the district to lump this contribution with all other forms of support in one general source of maintenance, it is clear that the method above indicated, unfortunate and inaccurate as it may be, is the method of procedure really applicable to studying the conditions as they actually exist.

The three largest cities—Duluth, St. Paul, Minneapolis—are not included in this report. They do not represent conditions typical of the state as a whole. These are the only cities of the state that have more than one high school each.² Furthermore, in enrollment, in the total number of instructors, in the proportion of the school work that is industrial in character, and in the size of the corporate units in which the high schools of the state are located, the high schools of these three cities are in a group quite separate from the rest of the state. In 1914-15 there were 210 high schools in Minnesota outside of Duluth, St. Paul, and Minneapolis. These were located in villages and cities whose population ranged, according to the United States Census Report of 1910, as shown in Table V.

¹ Chapter 7, Aid to Industrial Departments.

² Duluth has 2; St. Paul, 4; Minneapolis, 5. See *Eighteenth Annual Report of the Inspector of State High Schools*, 19 et seq.

TABLE V
SIZE OF CORPORATE UNITS IN WHICH MINNESOTA HIGH SCHOOLS ARE LOCATED^a

5 high schools are in corporations of under							500 people	
						between	500 and	1,000 people
71	"	"	"	"	"	"	1,000	" 1,500 "
43	"	"	"	"	"	"	1,500	" 2,000 "
30	"	"	"	"	"	"	2,000	" 2,500 "
14	"	"	"	"	"	"	2,500	" 3,000 "
6	"	"	"	"	"	"	3,000	" 3,500 "
5	"	"	"	"	"	"	3,500	" 4,000 "
4	"	"	"	"	"	"	4,000	" 4,500 "
2	"	"	"	"	"	"	4,500	" 5,000 "
3	"	"	"	"	"	"	5,000	" 5,500 "
1	"	"	"	"	"	"	5,500	" 6,000 "
2	"	"	"	"	"	"	6,000	" 6,500 "
2	"	"	"	"	"	"	6,500	" 7,000 "
1	"	"	"	"	"	"	7,000	" 7,500 "
3	"	"	"	"	"	"	7,500	" 8,000 "
2	"	"	"	"	"	"	8,000	" 8,500 "
2	"	"	"	"	"	"	8,500	" 9,000 "
0	"	"	"	"	"	"	9,000	" 9,500 "
3	"	"	"	"	"	"	9,500	" 10,000 "
1	"	"	"	"	"	"	10,000	" 10,500 "
1	"	"	"	"	"	"	18,000	" 18,500 "

The typical village or city of the state that supports a high school has a population of less than 1,300 people. One half of the high schools are in places containing not over 1,550 people, while 163 or more than three fourths of all the high schools of the state outside of the three largest cities, are in territory that by both the federal authorities and by sociologists is classed as distinctly rural.⁴ In attempting to determine and interpret conditions for the state at large the omission of the three largest cities seems, therefore, amply justified.⁵

The median number of days of attendance per pupil per year in 197 high school districts is 147.44. In the middle fifty per cent of these districts, the attendance per pupil is between 142.4 days and 154.9 days.⁶

In ninety-nine per cent of the districts the average attendance is 120 days, or more. This is three times the length of attendance necessary to receive apportionment aid. It is two thirds of a nine-months year. In over ninety per cent of the districts the average attendance is 135 days or more, which is at least three fourths of the standard school year.

^a See *Thirteenth Census of the United States, 1910* 2:985-8.

⁴ Gillette, *Constructive Rural Sociology* ch. 2.

⁵ The above data on population were collected for the high schools on the state list in 1914-15. See *Twenty-second Report of State High School Inspector*, 6-10.

⁶ In this and in succeeding distributions, the central tendency is obtained by making the basic unit the district, and not the pupil. Considered from one view-point this is not the best method. It does not give an idea that is nearly so correct for the attendance of all the pupils as would be obtained if the computations were made merely on the pupil basis, irrespective of district records. This study, however, is an investigation of certain conditions by districts as units. A compilation of attendance merely by pupils would make impossible comparison of this and other items by districts. Such comparisons make up the bulk of this study.

TABLE VI
ATTENDANCE PER PUPIL PER YEAR IN
HIGH SCHOOL DISTRICTS⁷

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	ATTENDANCE— DAYS
1	.5	101 to 103.9
1	.5	110 to 112.9
1	.5	120 to 122.9
6	3.04	126 to 128.9
3	1.52	129 to 131.9
6	3.04	132 to 134.9
7	3.55	135 to 137.9
15	7.60	138 to 140.9
17	8.57	141 to 143.9
35	17.76	144 to 146.9
36	18.27	147 to 149.9
20	10.15	150 to 152.9
21	10.65	153 to 155.9
12	6.09	156 to 158.9
11	5.58	159 to 161.9
1	.5	162 to 164.9
3	1.52	165 to 170.9
1	.5	171 to 173.9

TABLE VII
COST PER DAY OF ATTENDANCE PER PUPIL IN
HIGH SCHOOL DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	COST PER DAY— CENTS
1	.5	12 to 13.9
5	2.54	14 " 15.9
5	2.54	16 " 17.9
18	9.13	18 " 19.9
25	12.69	20 " 21.9
24	12.18	22 " 23.9
21	10.65	24 " 25.9
26	13.19	26 " 27.9
22	11.16	28 " 29.9
14	7.10	30 " 31.9
11	5.58	32 " 33.9
7	3.55	34 " 35.9
1	.5	36 " 39.9
2	1.01	40 " 43.9
1	.5	44 " 45.9
1	.5	46 " 47.9
1	.5	48 " 51.9
1	.5	52 " 57.9
1	.5	58 " 59.9
1	.5	60 " 61.9
1	.5	62 " 63.9
1	.5	64 " 65.9
3	1.52	68 " 69.9
2	1.01	94 " 95.9
1	.5	126 " 127.9
1	.5	136 " 137.9

⁷ It should be remembered that data collected made it possible to use 197 high school districts in the basic computations. These districts are the ones covered by the following tables of this chapter.

The median cost per day of attendance per pupil is 25.66 cents. For the middle one half of the districts this cost is between 21.5 cents and 29.87 cents. Although this unit cost reaches \$1.36 in the case of one district, over ninety per cent of the districts have a corresponding cost of not more than 35 cents. About fifteen per cent have a unit cost of less than 20 cents. Thus seventy-five per cent of the districts have a unit cost of between 20 and 35 cents per day of attendance.

TABLE VIII
AID PER DAY OF ATTENDANCE

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	AID PER DAY—CENTS
6	3.0	3 to 3.9
13	6.6	4 " 4.9
23	11.7	5 " 5.9
33	16.8	6 " 6.9
31	15.7	7 " 7.9
28	14.2	8 " 8.9
15	7.6	9 " 9.9
22	11.2	10 " 10.9
10	5.1	11 " 11.9
5	2.5	12 " 12.9
3	1.5	13 " 13.9
2	1.0	14 " 14.9
1	.5	15 " 15.9
3	1.5	16 " 16.9
0	.0	17 " 17.9
0	.0	18 " 18.9
1	.5	19 " 19.9
1	.5	20 " 20.9

TABLE IX
LOCAL SCHOOL TAX IN MILLS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	LOCAL SCHOOL TAX—MILLS
6	3.04	2 to 2.9
19	7.64	3 " 3.9
38	19.38	4 " 4.9
41	20.81	5 " 5.9
40	20.30	6 " 6.9
26	13.19	7 " 7.9
7	3.55	8 " 8.9
4	2.03	9 " 9.9
7	3.55	10 " 10.9
3	1.52	11 " 11.9
4	2.03	12 " 12.9
1	.5	17 " 17.9
1	.5	18 " 18.9

The median aid per day of attendance is 7.5 cents. There are some scattered cases of very high aid per day. In the middle half of the districts the aid ranges from 6.1 cents to 9.8 cents per day. Although the aid is as much as 20 cents per day in one district, it is 12 cents or more in only five and one-half per cent of all the schools. It is under 5 cents in less than ten per cent of all. In about eighty-five per cent of the schools, then, the aid ranges from 5 to 13 cents per pupil per day of attendance.

The median special tax that these districts levy for school maintenance, computed on their total taxable valuation, is 6.26 mills. The middle half of the districts levy taxes between 5.03 mills and 7.81 mills. Although one district has a tax of more than 17.9 mills, only eight per cent have taxes of 10 mills or more, while the taxes of eleven per cent are less than 4 mills. Thus about eighty-eight per cent of all districts are taxed between 4 and 10 mills on the basis of their true valuation.

COMPARISONS OF LOCAL SPECIAL SCHOOL TAX LEVIES

The report of the Minnesota Tax Commission for 1912 contains a careful study of the ratio between the taxable and true valuation of property throughout the state.⁸ This report gives the ratio of taxable to true valuation for each separate county of the state. The median of this ratio is 32.49 per cent.

In attempting a comparison of local special school taxes levied on the assessed valuation of the district, and any other item based upon or in any way dependent upon these items, one would be entirely in error to compare assessed valuations as they are stated, since the ratio of taxable to true valuation in the several counties of Minnesota ranges, as the above cited table shows, from 22.55 per cent to 43.35 per cent. The plan adopted in this study, therefore, was to reduce all special local school mill tax levies to the basis of the tax rate on the true valuation of the same property, the true valuation being computed by the use of the ratio of taxable to true valuation for the county in which such districts are located. It may be objected that rural real estate is not assessed the same as urban. This, however, can not constitute real criticism of the method at this point. Facts brought out in a later part of the study show clearly that the amount of mill tax voted for school purposes is considerably lower among rural districts than among districts maintaining graded or high schools, but that the assessed valuation to be drawn on for every pupil enrolled in school is considerably higher in the open country districts than in villages and cities.⁹ If absolutely accurate figures were obtainable, there is no doubt that figures for the true valuation of rural real estate would be slightly

⁸ Table 1, pp. 430, 431.

⁹ Chapter 6, Summary.

aised. The figures for the true valuation of urban real estate on the other hand, might be slightly lowered. Change in either place indicated would affect results only in an-increase in the same direction which the present indications show. All the facts we have on hand tend to prove that if more accurate information in this particular respect were available, comparisons in items of financial ability and taxable effort and resources between rural and graded and high schools would be even more striking than the obtained comparisons show.

The actual ratios of the taxable to true valuation in the fourteen counties used for rural school computations are:¹⁰

COUNTY	RATIO OF TAXABLE TO TRUE VALUATION PER CENT	COUNTY	RATIO OF TAXABLE TO TRUE VALUATION PER CENT
Carlton.....	30.09	Meeker.....	26.57
Dodge.....	30.59	Norman.....	30.64
Douglas.....	25.14	Pipestone.....	25.87
Hillmore.....	26.80	St. Louis.....	36.90
Hubbard.....	28.56	Scott.....	22.77
Jacobi.....	30.53	Watsonwan.....	27.73
Kittson.....	25.36	Wilkin.....	27.03

In the above table and in all others in this study where the amount of local school tax enters, *tax on real valuation* as above explained will be meant unless specific statement is made to the contrary.

TABLE X
THE PER CENT THAT STATE AID IS OF THE ANNUAL
MAINTENANCE INCOME IN HIGH SCHOOL DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	STATE AID— PER CENT
5	2.54	3 to 5.9
4	2.03	6 " 8.9
3	1.52	9 " 11.9
2	1.01	12 " 14.9
5	2.54	15 " 17.9
9	4.54	18 " 20.9
14	7.10	21 " 23.9
16	8.07	24 " 26.9
18	9.13	27 " 29.9
30	15.22	30 " 32.9
24	12.18	33 " 35.9
28	14.21	36 " 38.9
13	6.59	39 " 41.9
11	5.58	42 " 44.9
5	2.54	45 " 47.9
5	2.54	48 " 50.9
3	1.52	51 " 56.9
1	.5	57 " 59.9
1	.5	60 " 62.9

¹⁰ Report of the Minnesota Tax Commission, 1912 table 1, pp. 430, 431.

The median part that the total state aid is of the whole maintenance income of the districts is 32.15 per cent. The middle half of the districts receive from the state between 25.26 per cent and 37.76 per cent of their maintenance.

One district receives from the state as much as 60 per cent of its maintenance, while between eight and nine per cent of all the schools receive less than 15 per cent. On the other hand, more than forty-six per cent receive in aid over one third of their annual maintenance, and about eighty per cent receive more than one fourth.

TABLE XI
ASSESSED VALUATION PER ENROLLED PUPIL

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	ASSESSED VALUATION PER PUPIL
2	.96	\$ 250 to \$ 499
19	9.17	500 " 749
41	19.32	750 " 999
55	26.56	1,000 " 1,249
29	15.00	1,250 " 1,499
21	10.14	1,500 " 1,749
9	4.34	1,750 " 1,999
6	2.89	2,000 " 2,249
6	2.89	2,250 " 2,499
2	.96	2,500 " 2,749
1	.48	2,750 " 2,999
2	.96	3,000 " 3,499
1	.48	3,500 " 3,999
1	.48	4,000 " 4,139
1	.48	4,250 " 4,499
1	.48	4,500 " 5,749
1	.48	5,750 " 7,999
1	.48	8,000 " 8,499
1	.48	8,500 " 8,749
1	.48	8,750 " 10,499
1	.48	10,500 " 16,749
1	.48	16,750 " 18,249
1	.48	18,250 " 18,749
1	.48	18,750 " 23,999
1	.48	23,000 " 53,749
1	.48	53,750 " 53,799

The median assessed valuation per enrolled pupil is \$1,186. In the middle fifty per cent of these districts such valuation is between \$937 and \$1,610 per pupil.

The median and the mode fall in the same group. The distribution is extremely skewed toward low valuation. This is what we might expect. The highest valuations occur in those districts located in the northern part of the state. Several of the districts in this portion are almost or altogether iron mine territory.

Over eighty per cent of the districts have a valuation per pupil of less than \$1,750. The lowest fifty districts have a valuation between \$250

and \$677 per enrolled pupil. The highest fifty range from \$1,631 to \$53,750 per pupil. The valuations per pupil in the five richest districts are, respectively:

\$16,964
\$18,390
\$18,790
\$23,093
\$53,752

In over ninety-five per cent of the districts a fifteen-mill tax¹¹ levied on the assessed valuation would bring between \$7.50 and \$37.50 per pupil. In over nine per cent of the districts the same levy would bring between \$38.00 and \$800.00 per pupil.¹²

It should be remembered that all the figures discussed in connection with the above table are on the basis of assessed and not real valuation.

EFFECT OF SPECIAL STATE AID ON ENROLLMENT IN HIGH SCHOOL

It is possible that one effect of special state aid to high schools has been to increase attendance from outside the district itself, to attract children from adjoining districts. The presence of a high school in a well-settled community means that it will attract from nearby districts a part of its enrollment. This fact is shown in a later part of the study.¹³ In so far as special aid has furthered the establishment of high school departments, it has doubtless been a positive factor in increasing the enrollment of pupils from outside the district.

But aid to individual high schools increased from a maximum of \$1,500 plus the apportionment in 1903,¹⁴ to a maximum possibility of over \$5,000 in addition to apportionment in 1914-15.¹⁵ Later we shall discover that the per cent of outside enrollment in all the high schools of the state was 23.3 per cent in 1903 and 23.4 per cent in 1915.

The question more to the point is whether the increase in special state aid per school increased the enrollment of pupils from outside the district in similar proportion. An examination of the per cent of outside enrollment in the high schools during the past decade compels us to give a negative answer.

Some may object that the above presentation omits one very important item, that of consolidation; that the pupils from the outlying territory in consolidated districts are as truly "outside" pupils in the sense the above

¹¹ A rough central measure of special school levies among high school districts of the state.

¹² Cf. Cubberley, *School Funds and Their Apportionment* chs. 3 and 4.

¹³ Chapter 7, table 76.

¹⁴ Chapter 2.

¹⁵ *Eighteenth Annual Report of Inspector of State High Schools*, 4. No decrease was made after 1911, but an increase to one group of industrial schools and to teacher training departments. See Chapter 2.

are considered as though they were not within the formal confines of the enlarged district. It should be remembered that districts receive special annual aid for consolidation in addition to aid received because they support accredited high schools. It is quite erroneous to confuse these two forms of aid or the effects of them.

There is this much to be considered however. Every high school receives some of its pupils from outside its district. By consolidation a district takes in as its own members a number of pupils previously enrolled as outsiders. The number of such pupils included will depend partly upon the amount of rural territory included in the consolidation. In any consolidated district then, the number of outsiders enrolled will be nominally less than before the consolidation. The number of consolidated schools has increased markedly during the past five years. This situation makes the per cent of outside enrollment seem somewhat less for this period than it actually has been.

HIGH SCHOOL ENROLLMENT AND HIGH SCHOOL EXPENSE

Is there any relation between the part of a district's enrollment that is in the high school and the part of the district's money spent in the high school? If there is a central tendency for, say, one fourth of all pupils in high school districts to be found in the high school department, is there a corresponding tendency for one fourth, one third, or any other fraction of expenditure to go to the high school department?

For eighty-five districts receiving no aid for industrial work, division of school enrollment and cost between the grades and the high school is as shown in the two following tables:

TABLE XII
PER CENT OF A DISTRICT'S TOTAL ANNUAL ENROLLMENT
THAT IS IN THE HIGH SCHOOL

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	HIGH SCHOOL ENROLLMENT— PER CENT
6	7.07	3 to 7.9
6	7.07	8 " 12.9
12	14.12	13 " 17.9
27	31.75	18 " 22.9
22	25.87	23 " 27.9
10	11.76	28 " 32.9
1	1.18	33 " 37.9
0	.0	38 " 42.9
0	.0	43 " 47.9
1	1.18	48 " 52.9
0	.0	53 " 57.9
0	.0	58 " 62.9

TABLE XIII
PER CENT OF A DISTRICT'S TOTAL ANNUAL COST THAT IS
DEVOTED TO THE HIGH SCHOOL

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	HIGH SCHOOL COST— PER CENT
4	4.72	3 to 7.9
3	3.53	8 " 12.9
7	8.24	13 " 17.9
12	14.12	18 " 22.9
19	22.35	23 " 27.9
14	16.47	28 " 32.9
11	12.93	33 " 37.9
7	8.24	38 " 42.9
2	2.36	43 " 47.9
4	4.71	48 " 52.9
1	1.18	53 " 57.9
1	1.18	58 " 62.9

The relation between high school expenditure and enrollment is shown more clearly by changing Tables XII and XIII into curves of distribution. Figure 1 is the result.

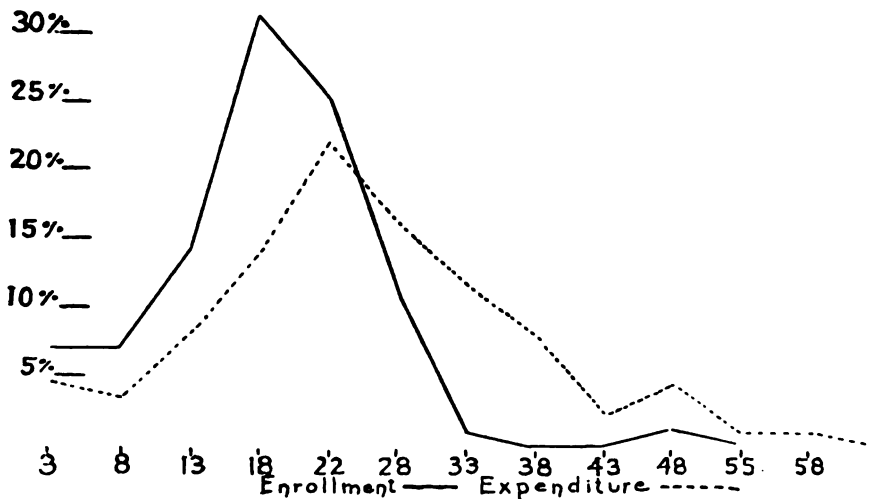


Figure 1

Per cent of district's total expenditure and enrollment in the high school department

Both tables and the figure indicate that there is a well-marked central tendency in each item. Districts maintaining high school departments have a median of 20 per cent of their total enrollment in the high school, and to maintain this department, spend slightly more than 30 per cent of their total annual expenditure to maintain all their school. The middle fifty per cent of the districts enroll between 16 per cent and 25 per cent

of all their children in their high schools. While one district enrolls "48 per cent to 52.9 per cent," only slightly more than two per cent of all districts enroll in their high schools over 38 per cent of their total enrollment. The limits of the middle half of the districts in expenditure fall both higher and lower than in enrollment. They are 21 per cent and 35 per cent for expenditure as compared with 16 per cent and 25 per cent for enrollment. One school spends on its high school "58 per cent to 62.9 per cent" of what it spends for all its schools each year. Yet less than one fifth of all spend more than 33 per cent of their money in their high school departments and about one sixth spend less than 18 per cent.

Table XIV shows a marked positive correlation between per cent of enrollment in the high school and the money spent in that department, in these eighty-five districts.

It is valuable to know how Minnesota compares in these items with other sections of the country.

TABLE XIV
PER CENT OF A DISTRICT'S TOTAL ENROLLMENT AND ANNUAL COST TO BE FOUND
IN THE HIGH SCHOOLS

ENROLLMENT	PER CENT OF COST										
	3-7.9	8-12.9	13-17.9	18-22.9	23-27.9	28-32.9	33-37.9	38-42.9	43-47.9	48-52.9	53-57.9
3 to 7.9.....	4	2									
8-12.9.....		1	3	1	1						
13-17.9.....			2	3	2	1	2			1	1
18-22.9.....			2	4	11	6	3	1			
23-27.9.....				3	5	5	3	6			
28-32.9.....				1		2	2		2	2	
33-37.9.....										1	
38-42.9.....											
43-47.9.....							1				
48-52.9.....											
53-57.9.....											
58-62.9.....											
TOTALS.....	4	3	7	12	19	14	11	7	2	4	1
MEDIANS.....	5.5	6.3	13.3	20.5	20.5	23.	23.8	25.1	30.5	30.5	15.5

The Boise, Idaho, Survey¹⁶ shows that in thirty-seven cities of the United States the lowest per cent of expenditure devoted to high schools is 10 per cent and the highest is 36 per cent.¹⁷ Only seven of the thirty-seven spend over 30 per cent, the Minnesota median, in the department. Their mode is clearly marked at 21 per cent. Sixty-nine per cent of these eighty-five schools are above the group in which this figure falls. On the whole, the eighty-five high schools of Minnesota compare favorably with

¹⁶ *Expert Survey of Public School System, Boise, Idaho, 1912.*

¹⁷ *Ibid.*, 18.

the high schools of the thirty-seven cities. The variability, though, is considerably greater than that found among these cities. The distribution of expenditure for high schools among these cities is:

TABLE XV
PER CENT OF SCHOOL EXPENDITURE DEVOTED TO HIGH SCHOOL
IN THIRTY-SEVEN CITIES

PER CENT OF EXPENDITURE	NUMBER OF CITIES
10 per cent to 14.9 per cent.	3
15 per cent to 19.9 per cent.	9
20 per cent to 24.9 per cent.	16
25 per cent to 29.9 per cent.	2
30 per cent to 34.9 per cent.	5
35 per cent to 39.9 per cent.	2

This survey gives the per cent of children in the high school in these thirty-seven cities, not by enrollment but by average daily attendance.¹⁸

The distribution of the total daily attendance in these cities that is to be found in their high schools is given in Table XVI.

TABLE XVI
PER CENT OF TOTAL AVERAGE DAILY ATTENDANCE TO BE FOUND IN HIGH SCHOOLS
IN THIRTY-SEVEN CITIES

PER CENT OF ATTENDANCE	NUMBER OF CITIES
5 per cent to 9.9 per cent.	7
10 per cent to 14.9 per cent.	22
15 per cent to 19.9 per cent.	5
20 per cent to 24.9 per cent.	2
25 per cent to 29.9 per cent.	0
30 per cent to 34.9 per cent.	1

In the "10 per cent to 14.9 per cent" group, there are

6 schools at 10 per cent
4 schools at 11 per cent
6 schools at 12 per cent
3 schools at 13 per cent
3 schools at 14 per cent

The modal per cent of attendance in high school among these cities is between 10 and 15 per cent. In Minnesota the median per cent of enrollment in high school is 20. Of the thirty-seven cities only three have more than 20 per cent of their average daily attendance in the high school.

Making all due allowance for the fact that presence of pupils is measured by average daily attendance in one group of schools and by enrollment in the other group, Minnesota's high schools rank high. It is very clear also that the districts maintaining high schools in this state are well disposed in the matter of supporting their high school departments. Whether the support is justly divided between the high school and the elementary school is a question which it is impossible to answer from any data at present available.

¹⁸ *Ibid.*, 19.

TABLE XVIII
RELATION BETWEEN LOCAL TAX LEVY AND PER CENT OF ANNUAL INCOME DERIVED FROM THE STATE

PER CENT OF AID	TAX RATE																
	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10-10.9	11-11.9	12-12.9	13-13.9	14-14.9	15-15.9	16-16.9	17-17.9	18-18.9
3-5.9	1	1	2		1												
6-8.9	2		1			1											
9-11.9			1		1												
12-14.9		1	1														
15-17.9		2	1														
18-20.9	1	1	4														
21-23.9		1															
24-26.9		1	2														
27-29.9			3														
30-32.9			4														
33-35.9	1		7														
36-38.9			6														
39-41.9		1	3														
42-44.9	1	2	2														
45-47.9		4	3														
48-50.9		3															
51-53.9			1														
54-56.9																	
57-59.9																	
60-62.9		1															
TOTALS	6	18	38	41	40	26	7	4	7	3	4					1	1
MEDIANS	13.0	36.7	31.3	35.1	33.5	30.0	28.5	25.5	31.5	31.5	24.0					19.5	25.5

TABLE XIX
RELATION BETWEEN LOCAL TAX RATE AND NUMBER OF DAYS ATTENDED PER PUPIL

ATTENDANCE	TAX RATE													
	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	10-10.9	11-11.9	12-12.9	13-13.9	14-14.9	15-15.9
100-109.9			1	1	2	4	1	1	1	1				
110-119.9	1		1	9	2	4			2	1				
120-129.9		2	5	23	20	15	4	2	2					
130-139.9		6	13	8	16	7	2	2	2		4			
140-149.9	1	7	12											1
150-159.9	2	4	6					1						
160-169.9														
170-179.9	2													
TOTALS	6	19	38	41	40	26	7	4	7	3	4			1
MEDIANS	155	142	149	145	147	146	146	145	142	125	145			145

TABLE XX
RELATION BETWEEN NUMBER OF DAYS ATTENDED PER PUPIL AND AID PER DAY OF ATTENDANCE PER PUPIL

ATTENDANCE	PER CENT OF AID																			
	3-5.9	6-8.9	9-11.9	12-14.9	15-17.9	18-20.9	21-23.9	24-26.9	27-29.9	30-32.9	33-35.9	36-38.9	39-41.9	42-44.9	45-47.9	48-50.9	51-53.9	54-56.9	57-59.9	60-62.9
100-109.9.....																1				
110-119.9.....	1										1	1		1				1	1	
120-129.9.....			1			1			1	2						1				
130-139.9.....						5	9	10	4	4	2	3	3	3		2		1		
140-149.9.....	1	1		1	1	1	3	3	7	12	13	18	6	4	2	2		1		
150-159.9.....	3	1	1	1	1	2	3	3	5	12	7	3	4	2	3	1		1		1
160-169.9.....		2							1		1	3		1						
170-179.9.....			1																	
TOTALS.....	5	4	3	2	5	9	14	16	18	30	24	28	13	11	5	5		3	1	1
MEDIANS.....	142	160	155	150	155	146	147	147	146	147	146	146	146	144	152	142		145	125	155

TABLE XXI
RELATION BETWEEN POPULATION AND LOCAL TAX RATE

POPULATION	TAX IN MILLS ON TRUE VALUATION													
	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	10-10.9	11-11.9	12-12.9	13-13.9	14-14.9	15-15.9
0- 999.....														
1,000- 1,999.....	2	5	7	19	17	10	2	3	5	3	2			1
2,000- 2,999.....		6	14	15	14	11	5		1					
3,000- 3,999.....	1	1	4	4	5	1		1			2		1	
4,000- 4,999.....			5		1	1								
5,000- 5,999.....			4		1	1								
6,000- 6,999.....			2		1									
7,000- 7,999.....	2	2	1	2	1	2								
8,000- 8,999.....														
9,000- 9,999.....		2												
10,000-10,999.....	1	2	1											
18,000-18,999.....		1												
TOTALS.....	6	19	38	40	39	26	7	4	7	3	4			1
MEDIANS*	55	13.7	14.4	10.3	11.1	11.2	11.5	11.8	5.3	6.0	15			5

* Medians are expressed in measures of a hundred in this table and the three immediately following.

TABLE XXII
RELATION BETWEEN POPULATION AND EXPENSE PER DAY OF ATTENDANCE

POPULATION	EXPENSE PER DAY OF ATTENDANCE														
	10-14.9	15-19.9	20-24.9	25-29.9	30-34.9	35-39.9	40-44.9	45-49.9	50-54.9	55-59.9	60-64.9	65-69.9	90-94.9	125-129.9	135-139.9
0-999.....		6	21	24	17		1				1	1			
1,000-1,999.....	2	12	23	20	7		1		1		1	1	1	1	1
2,000-2,999.....						1									
3,000-3,999.....		1	5	1	4		1	1							
4,000-4,999.....		1	3	1	1										
5,000-5,999.....			2	1	1										
6,000-6,999.....		1	1	1											
7,000-7,999.....		1	1	1				1					1		
8,000-8,999.....										1					
9,000-9,999.....			2									1			
10,000-10,999.....			2		1										
18,000-18,999.....			1												
TOTALS.....	2	25	64	55	31	1	3	2	1	1	3	3	2	1	1
MEDIANS.....	5	12.4	14.8	11.5	9.0	25.	12.5	50.0	15.0	85.0	15.	15.	45.	15.	15.

TABLE XXIII
RELATION BETWEEN POPULATION AND PER CENT OF ANNUAL INCOME DERIVED FROM THE STATE

POPULATION		PER CENT OF INCOME RECEIVED FROM THE STATE																		
		3-5.9	6-8.9	9-11.9	12-14.9	15-17.9	18-20.9	21-23.9	24-26.9	27-29.9	30-32.9	33-35.9	36-38.9	39-41.9	42-44.9	45-47.9	48-50.9	51-53.9	54-56.9	57-59.9
0-999.....	3	2	1																	
1,000-1,999.....			1		1	4	3	2	7	13	7	14	6	9	3	3	2			1
2,000-2,999.....			1				5	5	5	12	12	13	6	2	2	2	1			
3,000-3,999.....			1				1	1	2	3	2	1								
4,000-4,999.....					2	1	1	1	3	1	2									
5,000-5,999.....						1	1	1	1		1									
6,000-6,999.....							2	1												
7,000-7,999.....	1	1		1		1	1	1		1										
8,000-8,999.....		1																		
9,000-9,999.....				1	1	1		1												
10,000-10,999.....	1			1	1															
18,000-18,999.....																				
TOTALS.....	5	4	3	2	5	9	14	15	18	30	24	28	12	11	5	5	3		1	1
MEDIANS.....	18	45	25	80	47.5	45	18	20	14	11.7	14.2	10	10	15.5	8	8	5		5	5

TABLE XXIV
RELATION BETWEEN POPULATION AND AID IN CENTS PER DAY OF ATTENDANCE

POPULATION	Aid in Cents per Day of Attendance																	
	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	10-10.9	11-11.9	12-12.9	13-13.9	14-14.9	15-15.9	16-16.9	17-17.9	18-18.9	19-19.9	20-20.9
0-999.....				2	11	15	13	9	8	5	2	2	1	3			1	1
1,000-1,999.....		3	5	22	13	10	2	12	2									
2,000-2,999.....			5	4	5	3		1			1							
3,000-3,999.....	1		5	2	2													
4,000-4,999.....		2	1	2	2													
5,000-5,999.....		1	1	1	1													
6,000-6,999.....		1	3	2														
7,000-7,999.....	1	2	2															
8,000-8,999.....	1	1	1															
9,000-9,999.....		1	1															
10,000-10,999.....	2	2																
18,000-18,999.....	1																	
TOTALS.....	6	12	22	33	31	28	15	22	10	5	3	2	1	3			1	1
MEDIANS.....	95	65	32.5	16.5	14.2	9.3	5.8	11.7	6.2	5	7.5	5	5	5			5	5

Each of the preceding eight tables shows the relationship between two factors already considered in the discussion of high schools.

No correlation of amounts large enough to be significant appears in any of these tables of distribution.

TABLE XXV
HIGH SCHOOL SUMMARY

ITEM	MEDIAN	QUARTILES	
Annual attendance per pupil.....	147.4 days	142.4 days	154.4 days
Cost per pupil day.....	25.7 cents	21.5 cents	29.9 cents
Aid per pupil day.....	7.5 cents	6.1 cents	9.8 cents
Per cent of state aid.....	32.2 per cent	25.3 per cent	37.8 per cent
Local tax levy.....	6.3 mills	5.0 mills	7.8 mills
Assessed valuation per pupil.....	\$1,186	\$937	\$1,610
Length of school year.....	9 months ¹⁹		

SUMMARY

The typical Minnesota high school system is located in a village of between 1,250 and 1,275 people. Its pupils attend 147 days each year, and each pupil costs his district twenty-seven cents each day he attends. The district receives from the state seven and five-tenths cents for each pupil for each day he attends, and thirty-two per cent of all the annual income provided for maintaining the school system. The district, to raise its share, levies a tax of six mills on its real valuation. The assessed valuation of the property amounts to \$1,186 for every child enrolled in the district. The variability among the different high school districts is such that statements of central tendencies concerning taxes and per cent of aid are somewhat misleading. There is a marked tendency for districts to put money into their high schools in direct proportion to the number enrolled in the high schools. There is no tendency, as is sometimes asserted, for some communities to support a high school "at the expense of the grades."

In the lowest twenty-one per cent of high school districts the average levy for all high school districts would bring between \$3.75 and \$11.25 per enrolled pupil. In the nineteen highest a similar tax would bring \$37.50 to \$800 per pupil. In the six districts of highest valuation the same levy would raise from \$254 to \$800 per pupil. And yet there is no distinction made by the state in distributing the aid because of this extremely high variability.

¹⁹ The modal length. It is the minimum and is exceeded by a negligible number of the 197 schools.

What is the object of state aid to high schools? The original question in this connection seemed to be whether it is not as legitimate for the state to assist high schools by a direct bonus as to assist elementary schools, normal schools, and universities,²⁰ or whether the state is not bound to give such assistance in order to make its policy consistent for all divisions of public education.

But more specific aims have been attempted in applying such aid. In Massachusetts "the inference is that state aid is offered as an inducement to employ more than one teacher."²¹ In Maine the result was to increase greatly the number of free high schools, to raise very materially the standards of secondary scholarship, and to increase the number of courses offered by high schools.²² The original aim "in Wisconsin was to encourage the development of township or rural high schools." The results have been more far reaching in greatly broadening the curriculum, maintaining high standards of teachers' qualifications.²³ In California the aid "has helped struggling country schools where some of the very best secondary work is being done."²⁴ The aim in Florida seems to be to encourage beginning and successive advancement in work of high school grade.²⁵ Dakota's desire is "to aid rural schools to high standards."²⁶ New Hampshire's aid is for supervision.²⁷ Pennsylvania's plan resembles Florida's.²⁸ The results in Rhode Island have justified the expectation of bringing pupils in smaller towns into contact with high schools.²⁹

Summarizing, the author above quoted says that high school aid has made possible better teaching, better buildings, and better equipment. High school education is placed at the door of the child needing it.³⁰

In brief, state aid to high schools has aimed to make secondary education common, public education, inspected and standardized by the state, and has aimed to overcome the handicap to secondary education arising from the fact that this type of education is on the whole more costly than that in the years below it. All these aims, state aid has accomplished in Minnesota to a highly commendable degree.

The question of importance for the state to answer now is whether aid to high schools shall be continued after its original purposes have been fulfilled. The question may be thought of as whether high school aid

²⁰ For general discussion see Johnston; and Bolton, *Special State Aid to High Schools*, *Educational Review* 31, February, 1906.

²¹ *Ibid.*, Bolton, 143.

²² *Ibid.*, 145.

²³ *Ibid.*, 145-151.

²⁴ *Ibid.*, 153.

²⁵ *Ibid.*

²⁶ *Ibid.*, 155.

²⁷ *Ibid.*

²⁸ *Ibid.*, 157.

²⁹ *Ibid.*, 158.

³⁰ *Ibid.*, 163.

should be given with a view to accomplishing certain purposes and then discontinued, or whether the state has adopted a permanent policy of subsidy to secondary education. In the light of the historical development of secondary support,³¹ practice points decidedly in the direction of continued state subsidy in the future.

If this judgment be true, two matters are of paramount importance at this time. The first is, what shall be the conditions governing the distribution of this subsidy? If nothing else made this issue a vital one, the constantly and greatly increasing appropriations for the various forms of secondary aid would make it so.³² The subsidy should be given where it is needed, if given at all. It is obvious that the district most needing it is the one which must impose the greatest tax levy in order to meet the minimum standards set by the state supervising agent. Why districts with valuations sufficient to raise from \$600 to \$800 per pupil by the average tax levy should receive the maximum state aid is inexplicable. Whether they should receive any special aid is extremely doubtful. If all special aid were withdrawn from them the state would still have the right of educational supervision and standardization by virtue of the interpretation of scholarship prerequisites as a basis for the distribution of the apportionment income.

The second question of great present importance is, why state aid to high schools is continued in such large amounts. If the primary aims connected with the establishment of this aid have been in large part served, what aims have grown out of this development?

State aid to high schools in Minnesota has accomplished results highly commendable. It has caused high schools to increase in number very rapidly. It has made it possible for the state to be extraordinarily well provided with secondary education advantages in its small cities and villages. Requirements raised from time to time by a state board, with close inspection by an impartial, unattached, professional agent of the board, have given the state's system of high schools enviable rank. The important problems which the state now faces with respect to these schools are not merely those connected with continuing to maintain high ideals of scholarship, of educational accomplishment, of teachers' requirements, or adaptation of schools and courses of study to commonwealth and community needs. One of the problems of greatest importance is a readjustment of the distribution of the special aid with distinct reference to the need, the effort, and the ability of the district concerned, with respect to the high school work of these districts. There should be a more thorough study of the high school districts to determine whether it is wise to continue

³¹ C. F. Brown, *The Making of Our Middle Schools* ch. 13. Johnston et al., *The Modern High School* ch. 3.

³² See summary at the end of Chapter 2.

to give no aid nominally to elementary schools and to give all to the high schools of such districts, or whether each should be subsidized separately.

The bases for any form of aid selected should be chosen with reference to specific aims. The methods by which it is thought that such aims are to be realized should be clearly outlined. The state should have a policy with respect both to what it is attempting and also of determining how its attempts are working. From time to time investigations and surveys should be made to determine whether the aid is accomplishing the results sought. Some such procedure is the only way of securing the desired "economy" and "efficiency."

CHAPTER IV

SPECIAL AID TO GRADED SCHOOLS

At the time that this study was made there were on the list of state graded schools 217 districts.¹ The data gathered made it possible to include in the study 206 of these.

TABLE XXVI
ATTENDANCE PER PUPIL PER YEAR BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	ATTENDANCE— DAYS
1	.5	93 to 95
6	2.9	111
3	1.5	114
7	3.4	117
8	3.9	120
11	5.3	123
18	8.7	126
15	7.3	129
16	7.8	132
22	10.7	135
25	12.1	138
20	9.7	141
12	5.8	144
15	7.3	147
11	5.3	150
8	3.9	153
6	2.9	156
1	.5	159
1	.5	162

The median time that each pupil enrolled in these 206 graded schools attends each year is 138.7 days. In the middle fifty per cent of the districts pupils attend between 128.6 and 147.2 days each.

In less than one fifth of the districts the average attendance is lower than 120 days—three times the length of time a child needs to attend school in order for the district to be granted apportionment aid. In one district the attendance averages 162 days, or slightly more than eight ninths of the maximum, while in thirty-five per cent of all the districts the average is above 140 days, or seven eighths of the possible maximum.

LENGTH OF THE SCHOOL YEAR

Only a word here need be said about the length of the school year in these districts. There can not be less than nine months in order for any school to be on the list, to receive special state aid.² Only a few schools have longer school years.

¹ *Eighteenth Annual Report of the Inspector of State Graded Schools*, 8.

² See Chapter 2 and Appendix A, *Rules of High School Board*.

TABLE XXVII
COST PER PUPIL PER DAY OF ATTENDANCE BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	COST PER DAY—CENTS
1	.5	8 to 9.9
3	1.5	10 " 11.9
7	3.4	12 " 13.9
12	5.8	14 " 15.9
13	6.3	16 " 17.9
25	12.1	18 " 19.9
29	14.1	20 " 21.9
24	11.1	22 " 23.9
18	8.7	24 " 25.9
15	7.2	26 " 27.9
18	8.7	28 " 29.9
8	3.9	30 " 31.9
4	1.9	32 " 33.9
6	2.9	34 " 35.9
6	2.9	36 " 37.9
1	.5	38 " 39.9
4	1.9	40 " 41.9
3	1.5	42 " 43.9
2	1.0	44 " 47.9
1	.5	48 " 49.9
2	1.0	50 " 63.9
4	1.9	64 " 64.9

TABLE XXVIII
AID PER PUPIL PER DAY OF ATTENDANCE BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	AID PER DAY—CENTS
3	1.5	3 to 3.9
4	1.9	4 " 4.9
13	6.3	5 " 5.9
53	25.7	6 " 6.9
63	30.6	7 " 7.9
38	18.4	8 " 8.9
8	3.9	9 " 9.9
10	4.8	10 " 10.9
3	1.5	11 " 11.9
5	2.4	12 " 12.9
1	.5	15 " 13.9
0	.0	14 " 14.9
1	.5	15 " 15.9
0	.0	16 " 16.9
0	.0	17 " 17.9
2	1.0	18 " 18.9
0	.0	19 " 19.9
0	.0	20 " 20.9
1	.5	21 " 21.9
1	.5	24 " 24.9

The median cost per pupil per day of attendance is 22.98 cents. In the middle half of the schools this cost lies between 19.4 cents and 28.7 cents. The modal group represents a cost of 20 to 20.9 cents. In the lowest eleven per cent of the districts the cost per unit does not reach 16 cents, while in the highest eleven per cent the unit cost is not below 36 cents.

The median aid per day of attendance is 7.1 cents. The quartiles are 6.4 cents and 8.4 cents. Sixty-five per cent of the schools receive 7 cents or more aid per day of attendance, or practically not less than one third the median cost per day of attendance.

TABLE XXIX
PART THAT STATE AID IS OF TOTAL ANNUAL INCOME
BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	STATE AID— PER CENT
4	1.9	0 to 2.9
1	.5	3 " 8.9
1	.5	9 " 11.9
1	.5	12 " 14.9
3	1.5	15 " 17.9
10	4.9	18 " 20.9
4	1.9	21 " 23.9
24	11.1	24 " 26.9
16	7.8	27 " 29.9
38	18.4	30 " 32.9
28	13.6	33 " 35.9
29	14.1	36 " 38.9
18	8.7	39 " 41.9
10	4.9	42 " 44.9
4	1.9	45 " 47.9
6	2.9	48 " 53.9
5	2.4	54 " 56.9
2	1.0	63 " 65.9
1	.5	81 " 83.9
1	.5	87 " 89.9

The median part that state aid is of the total annual income for graded schools is 33 per cent. In one half of these schools this ratio falls between 27.55 per cent and 38.44 per cent. Nine per cent of the districts receive less than 20 per cent of their annual income from the state, while fourteen per cent of the districts receive 42 per cent or more from state aid.

The median special school tax levied by these districts to maintain their graded schools was 5.05 mills on the basis of the real valuation. The middle fifty per cent of the districts levied between 3.85 mills and 5.96 mills. Eighty-five per cent of the districts had tax levies between 2 and 8 mills. One district had a levy of 19 mills, but only three per cent of all levied over 10 mills.

TABLE XXX
SPECIAL SCHOOL TAX IN MILLS BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	SPECIAL SCHOOL TAX—MILLS
6	2.9	0 to 1.9
19	9.2	2 " 2.9
28	13.6	3 " 3.9
43	20.9	4 " 4.9
48	23.3	5 " 5.9
27	13.1	6 " 6.9
13	6.3	7 " 7.9
10	4.9	8 " 8.9
6	2.9	9 " 9.9
1	.5	10 " 10.9
3	1.5	11 " 11.9
1	.5	16 " 16.9
1	.5	19 " 19.9

TABLE XXXI
ASSESSED VALUATION PER ENROLLED PUPIL

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	ASSESSED VALUATION PER PUPIL
5	2.4	\$ 250 to \$ 499
9	4.2	500 " 749
31	14.6	750 " 999
57	26.9	1,000 " 1,149
50	23.6	1,250 " 1,499
21	9.9	1,500 " 1,749
10	4.7	1,750 " 1,999
5	2.4	2,000 " 2,249
7	3.3	2,250 " 2,499
3	1.4	2,500 " 2,749
3	1.4	2,750 " 2,999
3	1.4	3,000 " 3,249
1	.5	3,250 " 3,499
0	.0	3,500 " 3,749
0	.0	3,750 " 3,999
1	.5	4,000 " 4,249
0	.0	4,250 " 4,499
0	.0	4,500 " 4,749
0	.0	4,750 " 4,999
1	.5	5,000 " 5,249
1	.5	5,250 " 5,499
0	.0	5,500 " 5,749
0	.0	5,750 " 5,999
0	.0	6,000 " 6,249
0	.0	6,250 " 6,499
0	.0	6,500 " 7,749
0	.0	7,750 " 7,999
0	.0	8,000 " 8,499
1	.5	8,500 " 8,749
0	.0	8,750 " 8,999
0	.0	9,000 " 9,499
0	.0	9,500 " 10,499
0	.0	10,500 " 10,999
3	1.4	11,000 and up

The assessed valuation per enrolled pupil in 212 of these districts is \$1,254. The middle fifty per cent have valuations between \$1,034 and \$1,582. Only four per cent have valuations over \$3,250 per child, and only fourteen per cent over \$2,000 per child. Over one fifth have valuations under \$1,000 per child.

SUMMARY

The typical graded school of Minnesota enrolls annually 119 pupils,¹ who attend 139 days, each pupil costing the district twenty-three cents each day he attends. Of the total income of this school one third is contributed by the state and the remainder is raised by the district through a tax of 5.05 mills on each dollar of real valuation of taxable property.

The Pearson method shows the following relationships:

TABLE XXXII

CORRELATIONS IN GRADED SCHOOLS

I. Number of days annual attendance per pupil and local tax levy.....	+ .02
II. Number of days attended per pupil during a year and per cent that state aid is of total annual maintenance income.....	+ .009
III. Cost per pupil per day of attendance and aid per pupil per day of attendance.....	+ .26
IV. Cost per pupil per day of attendance and per cent that state aid is of total annual maintenance income.....	— .25
V. Cost per pupil per day of attendance and number of days annual attendance per pupil.....	— .11
VI. Aid per pupil per day of attendance and local tax levy.....	+ .11

¹ In 2 districts, or	1.27 per cent of all, the enrollment is	50 to	59 pupils
" 1 district	" .64	" " " "	" 60 " 69 "
" 5 districts	" 3.18	" " " "	" 70 " 79 "
" 17 "	" 10.83	" " " "	" 80 " 89 "
" 9 "	" 5.73	" " " "	" 90 " 99 "
" 14 "	" 8.92	" " " "	" 100 " 109 "
" 34 "	" 21.66	" " " "	" 110 " 119 "
" 14 "	" 8.92	" " " "	" 120 " 129 "
" 17 "	" 10.83	" " " "	" 130 " 139 "
" 12 "	" 7.64	" " " "	" 140 " 149 "
" 5 "	" 3.18	" " " "	" 150 " 159 "
" 5 "	" 3.18	" " " "	" 160 " 169 "
" 5 "	" 3.18	" " " "	" 170 " 179 "
" 2 "	" 1.27	" " " "	" 180 " 189 "
" 1 district	" .64	" " " "	" 190 " 199 "
" 1 "	" .64	" " " "	" 200 " 209 "
" 3 districts	" 1.91	" " " "	" 210 " 219 "
" 2 "	" 1.27	" " " "	" 220 " 229 "
" 2 "	" 1.27	" " " "	" 230 " 239 "
" 1 district	" .64	" " " "	" 240 " 249 "
" 2 districts	" 1.27	" " " "	" 280 " 289 "
" 0 "	" .0	" " " "	" 310 " 319 "
" 0 "	" .0	" " " "	" 330 " 339 "
" 1 district	" .64	" " " "	" 350 " 359 "
" 1 "	" .64	" " " "	" 360 " 369 "
" 1 "	" .64	" " " "	" 400 " 409 "

Graded schools have only the department of grade work, with a few exceptions. By actual count nearly one hundred of the 216 have just four instructors each, including the principal. This similarity offers the opportunity to study the effect of state aid in a group of schools more nearly representing a clearly defined type of school than any other division that it has been possible to make.⁴ The division "high schools" includes both secondary and elementary departments of work. Rural schools include the so-called semi-graded and ungraded or common schools. Among the "common schools" are three classes with respect to aid. Graded schools, on the other hand, exist as a logically fairly well defined group.

Special aid to graded schools came in Minnesota seventeen years after high school aid. By common practice these two aids seem to have been granted in similar order of precedence in other states.⁵ State supervision, with all its implications of high standards and requirements with respect to buildings, equipment, teachers, length of school year, curricula, and scholarship, has been the aim sought.

Graded school aid has without doubt increased the number of high schools and helped to improve the high school situation in the state. Conformity to state supervision and requirements is learned through meeting graded aid prerequisites. The state of mind and attitude of a district resulting from familiarity with requirements for grade school aid are without doubt much more favorable to the added requirements for a district's being placed upon the high school list. The general large increase of state aid through recent years indicates, too, that a district that once receives a state subsidy has an increasing appetite for more of the same kind of sustenance.

Graded school aid has without doubt lengthened the school year, raised teaching efficiency, and bettered the physical conditions under which instruction is given in these schools.

On the other hand, neither the effort the district makes nor the proportion it receives from the state seems to make any difference in the number of days a child attends (I and II).⁶ There is no marked indication that cost per day of attendance and the aid per day of attendance have any relation one to another (III). Neither is there any marked indication that where this daily cost is highest the districts are receiving any particular proportion of their total income from state aid (IV). The relation between the proportion of aid and the local tax is not enough to be a basis for very definite conclusions. Table XXXIII shows a tendency toward negative correlation, however, which fact may be of some importance.

⁴ See Chapter 2.

⁵ See *Special State Aid to High Schools*, 31:3rd div.

⁶ Roman numerals refer to items in table 32.

TABLE XXXIII
RELATION BETWEEN LOCAL TAX LEVY AND PER CENT OF ANNUAL INCOME DERIVED FROM THE STATE

TAX RATE— MILLS	PER CENT OF AID																				
	0-2.9	3-5.9	6-8.9	9-11.9	12-14.9	15-17.9	18-20.9	21-23.9	24-26.9	27-29.9	30-32.9	33-35.9	36-38.9	39-41.9	42-44.9	45-47.9	48-50.9	54-56.9	63-65.9	81-83.9	87-89.9
1-1.9.....	1						1	1	1	1	1	1	4	1	1	1	1		1	1	
2-2.9.....		1							1		5	2	4	1	3	1	4	1	1		
3-3.9.....									2		11	10	7	6	9			1			
4-4.9.....							1	1	2	2	5	5	8	3	1	1	1	1			
5-5.9.....	1			1	1		1	1	4	5	10	7	5	4	3	1	1	2			
6-6.9.....							2	2	2	4	5	3	3	3							
7-7.9.....				1			2	1	2	3	3	2	1	1	1	1		1			
8-8.9.....						1	1		1	1	1										
9-9.9.....	2						2		2	1	1										
10-10.9.....							1		1		1										
11-11.9.....									1		1		1			1					
16-16.9.....								1													
19-19.9.....																					
31-31.9.....									1												
TOTALS.....	4	1	0	1	1	3	10	4	24	16	38	28	29	18	10	4	6	5	2	1	1
MEDIANS.....	7.5	3.5		6.5	5.5	6.7	7	5	5.8	6.2	5.2	4.8	4.4	4.8	3	6.5	2.5	5.2	2.5	1.5	1.5

Cost per pupil day, assessed valuation per pupil enrolled, and the special school levy distributions do not contain many cases of great extremes. The attendance in days per pupil and the per cent of revenue from the state have their distributions less centered. The variability from the central tendency in the last named distribution is probably accentuated by the fact that a few schools receive aid other than that merely for graded schools, as aid for consolidation, aid for industrial work, or aid for two years of high school work.

In the data studied there is no proof that special state aid to graded schools has resulted in any condition that is distinctly bad. The relationship between cost and per cent of state aid shows a tendency that may result in districts which are not needy receiving too large a proportion from the state. The danger of this result will always be present and the result itself will tend to creep in in greater or less degree as long as the aid is distributed without any reference to local ability or local effort.

Local communities and the state at large have received, it appears, no main benefits from aid to this group of schools: first, elementary schools and school work have been standardized; second, communities have qualified for high school rank much sooner than without the stimulating effect of the intermediate experience of receiving graded school aid. Each of these results is highly justifiable. There is one question, however, that is worth while raising in this connection. It is, whether, with the liberal amount of aid now given this type of school, more definite encouragement could not be offered for communities to do something different than the stereotyped form of work, particularly in the grammar grades. It is true that such incentive has been offered through additional aid. ✓

TABLE XXXIV
GRADE SCHOOL SUMMARY

ITEM	MEDIAN	QUARTILES	
		1ST QUARTILE	3RD QUARTILE
Annual attendance per pupil.....	138.7 days	129.6 days	147.2 days
Cost per pupil day.....	23.0 cents	19.4 cents	28.7 cents
State aid per pupil day.....	7.1 cents	6.4 cents	8.4 cents
Per cent of state aid.....	33.0 per cent	27.6 per cent	38.4 per cent
Local tax levy.....	5.1 mills	3.9 mills	6.0 mills
Assessed valuation per pupil.....	\$1,254	\$1,034	\$1,582
Length of school year.....	9 months. ⁷		

⁷ The modal length. It is the minimum and is exceeded by a negligible number of the 212 schools.

It has already proven distinctly worth while to encourage communities to do independent things even though they can not or do not aspire to establish even a partial high school. Industrial work for both boys and girls should be encouraged below the high school. In some schools departmental work could be introduced. It does not seem as though the state needs to wait on special appropriations to encourage specific experiments and increments of work among graded schools. It is quite probable that conscious administration of the graded aid to encourage the special and varied forms of effort would tend to bring results of similar nature to those that have been sought so far only through additional aid for special work.

CHAPTER V

SPECIAL AID TO RURAL SCHOOLS

f the three groups of schools which were to be discussed only one, that of the rural schools, remains. The facts concerning the seven already discussed for high and graded school districts will be presented first. These will be followed by a discussion of certain implications for the rural field only.

TABLE XXXV
NUMBER OF ACTUAL DAYS ATTENDANCE PER PUPIL,
BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	ATTENDANCE— DAYS
2	.2	30 to 34
3	.3	35 " 39
4	.4	40 " 44
4	.4	45 " 49
10	1.0	50 " 54
17	1.7	55 " 59
30	2.9	60 " 64
41	4.0	65 " 69
51	5.0	70 " 74
52	5.1	75 " 79
72	7.1	80 " 84
79	7.8	85 " 89
96	9.5	90 " 94
76	7.5	95 " 99
80	7.9	100 " 104
86	8.5	105 " 109
82	8.1	110 " 114
68	6.7	115 " 119
42	4.2	120 " 124
37	3.7	125 " 129
27	2.7	130 " 134
15	1.5	135 " 139
19	1.9	140 " 144
7	.7	145 " 149
5	.5	150 " 154
2	.2	155 " 159
2	.2	160 " 164
1	.1	165 " 169
1	.1	170 " 174

the median length of time that a pupil in a rural district attends school during the year is 97.9 days. The quartiles of attendance are 81 and 112 days. The distribution of this attendance is given in Table V. The modal attendance time is in the group "90 to 95 days"; the median and the mode are thus in adjoining groups. Fifty-three per cent attend less than 100 days, or five months a year. Less than sixteen

per cent attend 120 days, or six months. On the other hand, 99.5 per cent attend 40 days or more, the attendance required for sharing in the current school fund.

TABLE XXXVI
LENGTH OF SCHOOL YEAR IN MONTHS

The number of districts having a school year of three months is 1									
"	"	"	"	"	"	"	"	from 3 to 4	"
"	"	"	"	"	"	"	"	4 " 5	"
"	"	"	"	"	"	"	"	5 " 6	"
"	"	"	"	"	"	"	"	6 " 7	"
"	"	"	"	"	"	"	"	7 " 8	"
"	"	"	"	"	"	"	"	8 " 9	"
"	"	"	"	"	"	"	"	9 " 10	"
									1
									32
									80
									165
									606
									201
									9

The median length of the school year in 1,095¹ districts is 7.7 months. The middle one half of these districts have a school year between 6.9 months and 7.8 months in length.

There is a very clearly marked mode at eight months. One half of all these schools have less than eight months of school annually, while only one half of one per cent have less than seven months.

If the length of these school years be calculated in days then the table would read: One school has a year of between 41 and 60 days, etc., and the median length is 148.9 days. This is 16.4 days longer than the length of rural schools in Minnesota as found by the Bureau of Education for the year 1909-10.² The Bureau, however, includes in the group, "rural schools," all schools not in cities of 2,500 or more inhabitants.³

On the other hand, the median school year in the Minnesota rural school, as that division is here used, is 11.2 days longer than the average school year in all rural schools in the United States, as reported by the Bureau.⁴ In reality this means that the one- and two-room rural schools of Minnesota are really considerably in advance of the rest of the schools in their own class over the country as a whole. On the other hand, it is doubtful whether the state is very far in advance of the central tendency of the other states in its own geographical division of territory. The accompanying figure shows the general tendency toward increasing length of school years. Minnesota falls in the North Central Division.

One would naturally expect that the special aid of the rural schools in Minnesota would result in a lengthened school year. The length of the

¹ More than 1,011 districts from the fourteen counties could be included in this item. Since this factor was not used in any correlations there is no point in making the number correspond with the number of districts used in the correlations. Hence, 1,095 instead of 1,011.

² Monahan, *The Status of Rural Education in the United States*, *United States Bureau of Education Bulletin* no. 8 p. 23. 1913.

³ *Ibid.*, 10.

⁴ *Ibid.*, 23.

chool year is one of the two essential requirements conditioning such aid.⁵ It may be very seriously doubted whether this aid has kept these schools in session longer each year than the average school year for other rural schools in the same part of the country.⁶

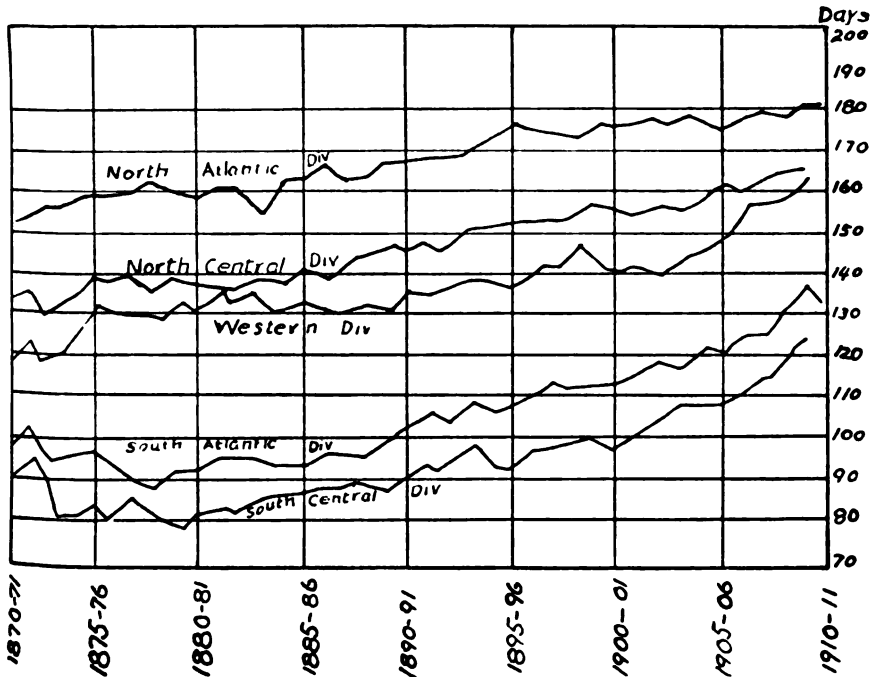


Figure 27
Increasing length of term, in days

The median cost per day of actual attendance per pupil is 22.9 cents. In the middle half of the districts this cost is between 17.08 cents and 31.86 cents. The modal cost is between 15 and 20 cents. This is only the second step removed from the group of lowest cost, but the eighteenth step from the group of highest cost. In this item there is, then, a very marked tendency toward an appearance of scattered cases of districts in which the cost is much higher than the median, but for no such scattering to appear below the median cost. In over seventy per cent of the districts the cost is less than 30 cents per pupil per day, while in over thirty-eight per cent it is less than 20 cents. In only slightly more than two per cent of the districts is the cost above 75 cents.

⁵ See Chapter 2.

⁶ Cf. *Rural Life and Education*, 100.

⁷ From Cubberley's *Rural Life and Education*, 101 (with the publisher's permission).

TABLE XXXVII
COST PER PUPIL PER DAY OF ATTENDANCE BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	COST PER DAY—CENTS
6	.59	5 to 9.9
146	14.44	10 " 14.9
240	23.74	15 " 19.9
199	19.78	20 " 24.9
130	12.85	25 " 29.9
99	9.79	30 " 34.9
54	5.34	35 " 39.9
41	4.05	40 " 44.9
21	2.07	45 " 49.9
22	2.16	50 " 54.9
9	.89	55 " 59.9
6	.59	60 " 64.9
4	.39	65 " 69.9
11	1.08	70 " 74.9
5	.49	75 " 79.9
3	.20	80 " 84.9
7	.69	85 " 89.9
1	.09	90 " 94.9
1	.09	95 " 99.9
1	.09	100 " 104.9
5	.49	105 " 109.9 and up

TABLE XXXVIII
STATE AID PER PUPIL PER DAY OF ATTENDANCE BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	AID PER DAY—CENTS
1	1	0.1 to 0.9
4	.4	1 " 1.9
1	.1	2 " 2.9
19	1.9	3 " 3.9
78	7.7	4 " 4.9
119	11.8	5 " 5.9
113	11.2	6 " 6.9
143	14.1	7 " 7.9
168	16.6	8 " 8.9
119	11.8	9 " 9.9
100	9.9	10 " 10.9
48	4.7	11 " 11.9
32	3.1	12 " 12.9
26	2.6	13 " 13.9
10	1.0	14 " 14.9
7	.7	15 " 15.9
6	.6	16 " 16.9
4	.4	17 " 17.9
2	.2	18 " 18.9
6	.6	19 " 19.9
1	.1	20 " 20.9
1	.1	21 " 21.9
1	.1	23 " 23.9
1	.1	25 " 25.9
1	.1	27 " 27.9
2	.2	45 " 45.9

he median aid per day of actual attendance is 8.8 cents. The mode in the same group as the median. The middle half of all the districts ve aid per day between 6.2 cents and 9.5 cents. In twenty-five of istricts the aid is over 10 cents per pupil daily; in ten per cent, the aid s than 5 cents per day.

TABLE XXXIX

THE PER CENT THAT STATE AID IS OF THE TOTAL ANNUAL
INCOME FOR MAINTENANCE BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	STATE AID— PER CENT
10	1.0	0 to 4.9
20	2.0	5 " 9.9
57	5.6	10 " 14.9
72	7.1	15 " 19.9
68	6.7	20 " 24.9
110	10.9	25 " 29.9
113	11.2	30 " 34.9
125	12.4	35 " 39.9
132	13.0	40 " 44.9
99	9.8	45 " 49.9
96	9.5	50 " 54.9
51	5.0	55 " 59.9
30	3.0	60 " 64.9
16	1.6	65 " 69.9
4	.4	70 " 74.9
4	.4	75 " 79.9
3	.3	80 " 84.9
1	.1	95 " 99.9

TABLE XL

LOCAL TAX FOR MAINTENANCE AS PER MILLS
OF REAL TAXABLE VALUATION

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	LOCAL TAX— MILLS
201	19.88	0 to .9
445	44.01	1 " 1.9
190	18.79	2 " 2.9
53	5.24	3 " 3.9
68	6.73	4 " 4.9
23	2.27	5 " 5.9
8	.79	6 " 6.9
8	.79	7 " 7.9
5	.49	8 " 8.9
7	.69	9 " 9.9
1	.09	10 " 10.9
2	.19	11 " 11.9

he median part that the two kinds of state aid constitute of the year's income is 37.2 per cent. The middle half of these districts receive tly from the state between 25.7 per cent and 45.5 per cent of their annual income for maintenance. This includes many districts

whose only receipt from the state is the apportionment money. There is a fairly clearly marked mode in the "40 per cent to 45 per cent" group. On account of the fact that 45 per cent aid marks practically the end of three fourths of the number of cases, however, the median falls quite a little above this modal per cent.

Over twenty per cent of all the districts receive 50 per cent or more directly from state funds, while only twenty-two per cent receive less than 25 per cent from the state.

It should be remembered that of the 1,011 districts included in this array, only 461 receive special aid for rural schools; 550 receive only the current school fund.

TABLE XLI
ASSESSED VALUATION PER ENROLLED PUPIL BY DISTRICTS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	ASSESSED VALUATION PER PUPIL
9	1.44	below \$ 300
24	3.84	\$ 300 to 499
25	4.00	500 " 699
38	6.08	700 " 899
56	8.96	900 " 1,099
43	6.88	1,100 " 1,299
39	6.24	1,300 " 1,499
35	5.60	1,500 " 1,699
41	6.56	1,700 " 1,899
29	4.64	1,900 " 2,099
27	4.32	2,100 " 2,299
33	5.28	2,300 " 2,499
36	5.76	2,500 " 2,699
20	3.20	2,700 " 2,899
19	3.04	2,900 " 3,099
20	3.20	3,100 " 3,299
13	1.98	3,300 " 3,499
10	1.60	3,500 " 3,699
14	2.24	3,700 " 3,899
8	1.28	3,900 " 4,099
5	.80	4,100 " 4,299
10	1.60	4,300 " 4,499
9	1.44	4,500 " 4,699
4	.64	4,700 " 4,899
8	1.28	4,900 " 5,099
2	.32	5,100 " 5,299
4	.64	5,300 " 5,499
37	5.92	5,500 and above

The median special local school tax levy on the real valuation of the property is 1.7 mills per district. In the middle fifty per cent of the districts this tax varies from 1.7 mills to 1.58 mills. The modal tax is very clearly "1 to 1.9 mills," in the same group as the median. In over eighty-four per cent of the districts the tax is less than 3 mills. In ninety-seven per cent of the districts it is less than 6 mills. This striking central

tendency is paralleled only by the fact that forty-four per cent of all the cases are in the modal (median) group.

This remarkable similarity among rural districts with respect to their tax levies is not to be interpreted to mean equal similarity with respect to actual school support—the amount actually raised for schools in these districts. This fact is clearly shown by a consideration of the assessed valuation per enrolled pupil. The latter item was computed for a random selection of 618 districts out of the 1,011 districts.

The median assessed valuation per enrolled pupil in 618 rural school districts is \$2,195. In one half of these districts the valuation per pupil is between \$1,321 and \$3,273. Ten per cent of the districts with the highest valuation would yield from \$450 to over \$550 per pupil with a tax levy of 10 mills on the assessed valuation. The ten per cent of lowest valuation would yield between \$30 and \$70 approximately from a similar levy. So far as unequal abilities among individual districts are concerned, there is plenty of justification for some plan of state aid that shall tend to equalize the burden of support.

The lists of districts with their respective valuation, in Table XLIII, show the inequality among districts in one county of southwestern Minnesota.

TABLE XLII
MONTHLY SALARY OF RURAL TEACHERS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	MONTHLY SALARY OF RURAL TEACHERS
10	1.0	\$30 to \$34
54	5.3	35 " 39
176	17.4	40 " 44
231	22.9	45 " 49
305	30.2	50 " 54
137	13.5	55 " 59
69	6.6	60 " 64
23	2.3	65 " 69
6	.6	70 " 74
2	.2	75 " 79

The median monthly salary of teachers in 1,011 districts is \$51.14. The middle fifty per cent of districts have salaries ranging from \$45.63 to \$56.30 per month. There is a clearly marked mode in the "\$50 to \$55" group, where the median falls. About twenty-four per cent of the districts pay less than \$45 per month, while only nine and seven-tenths per cent pay \$60 or more.

TABLE XLIII
BLUE EARTH COUNTY

I certify that the following is a correct statement of the school tax rate and assessed valuation for the school districts of Blue Earth County for the school year ending July 31, 1913.

Signed—C. L. KENNEDY, *County Auditor*

School Districts

(Include in the special school tax the local 1-mill but not the state 1-mill tax.)

Name or Number	Assessed Valuation	Special School Tax	Name or Number	Assessed Valuation	Special School Tax
1	\$4,187,699	10.0	85	\$ 79,174	3.3
2	69,242	1.5	86	113,177	1.3
3	64,033	1.6	87	236,727	8.5
4	41,712	4.8	88	65,391	2.3
5	62,255	3.2	89	115,160	2.3
6	50,950	3.0	90	72,681	2.8
7	110,087	8.4	91	71,143	4.2
8	83,462	4.2	92	68,752	2.9
10	65,481	4.2	94	92,023	1.1
11	136,924	0.6	95	104,164	2.0
12	74,744	4.0	96	47,540	0.0
13	44,254	3.4	97	108,704	1.9
14	61,135	2.9	98	57,720	7.0
15	81,753	2.8	99	114,065	2.7
16	117,889	10.2	100	110,190	14.2
17	62,634	4.8	103	62,688	8.0
19	350,042	18.6	104	66,221	3.0
20	110,813	1.4	105	324,670	17.0
21	93,740	3.7	106	78,346	4.3
22	46,622	5.4	107	38,054	6.6
23	76,057	3.3	108	47,822	3.7
24	157,974	7.6	109	158,782	1.0
25	73,421	2.1	110	43,089	4.7
26	50,030	6.0	111	56,312	3.6
27	105,862	3.8	112	251,848	20.0
29	69,499	2.9	113	65,399	4.6
30	82,512	2.4	114	56,121	3.6
31	89,683	1.1	115	128,828	2.0
32	108,630	3.2	116	122,958	0.8
33	110,199	1.8	117	66,818	2.3
34	80,201	2.8	118	56,007	6.3
35	49,919	4.0	119	76,109	2.6
36	75,654	4.0	120	57,521	4.4
38	64,730	0.0	121	67,927	3.7
39	81,094	2.2	122	89,657	1.7
40	77,695	3.2	123	34,811	11.2
41	83,697	3.6	124	51,226	4.0
42	81,478	4.9	125	75,611	2.7
43	93,909	16.0	126	60,858	1.7
44	91,499	1.9	127	47,882	4.2
45	85,023	12.6	128	57,632	2.6
46	49,676	9.1	129	40,441	3.7
47	76,369	2.7	130	118,732	1.7
48	56,098	3.6	131	80,216	1.3
49	79,871	2.8	133	61,894	4.1
50	45,391	5.5	135	52,805	2.9
51	53,828	3.7	136	59,240	6.8
52	35,982	9.7	137	92,922	1.6

TABLE XLIII—Continued

Name or Number	Assessed Valuation	Special School Tax	Name or Number	Assessed Valuation	Special School Tax
53	74,384	2.0	138	61,134	5.6
55	90,728	2.2	139	49,607	5.0
56	69,348	5.6	140	38,650	6.5
57	65,953	3.8	141	68,758	4.4
58	48,633	4.2	142	52,544	4.8
59	47,428	5.0	143	41,122	7.3
61	55,181	7.5	144	85,580	1.3
63	75,891	5.3	145	32,076	9.4
66	107,888	1.9	146	176,380	11.3
67	85,645	3.5	147	75,716	2.7
69	62,299	2.6	148	38,648	5.2
71	64,796	4.1	149	59,828	9.2
72	74,148	6.1	150	51,383	4.9
74	112,600	1.8	151	39,377	7.7
75	82,542	3.0	152	46,844	6.4
76	51,578	2.4	153	33,136	4.5
77	69,095	3.6	154	36,596	6.1
78	79,430	3.8	155	63,004	3.6
79	66,387	5.0	156	45,636	6.4
80	55,775	4.5	157	60,235	0.9
83	146,265	5.1			

Statistics taken from the biennial state reports covering the respective years indicate that salaries are rising fast in these schools in Minnesota while total enrollment slowly declines. The figures for total enrollment and for total salaries are plotted to show the per cent of change in each since 1903.

Figure 3 indicates clearly that while enrollment has been slightly declining, almost steadily, during these eleven years, the cost of rural education has risen greatly. The rise in the amount spent for salaries and the close paralleling of the lines for total cost and for salaries would seem to indicate that the factor most responsible for rise in total cost is rise in salaries.

The rise in total cost for rural education is not peculiar to Minnesota. The accompanying figure shows the increase of cost on the basis of average daily attendance for the United States, by geographical divisions, from 1870-71 to 1910-11.

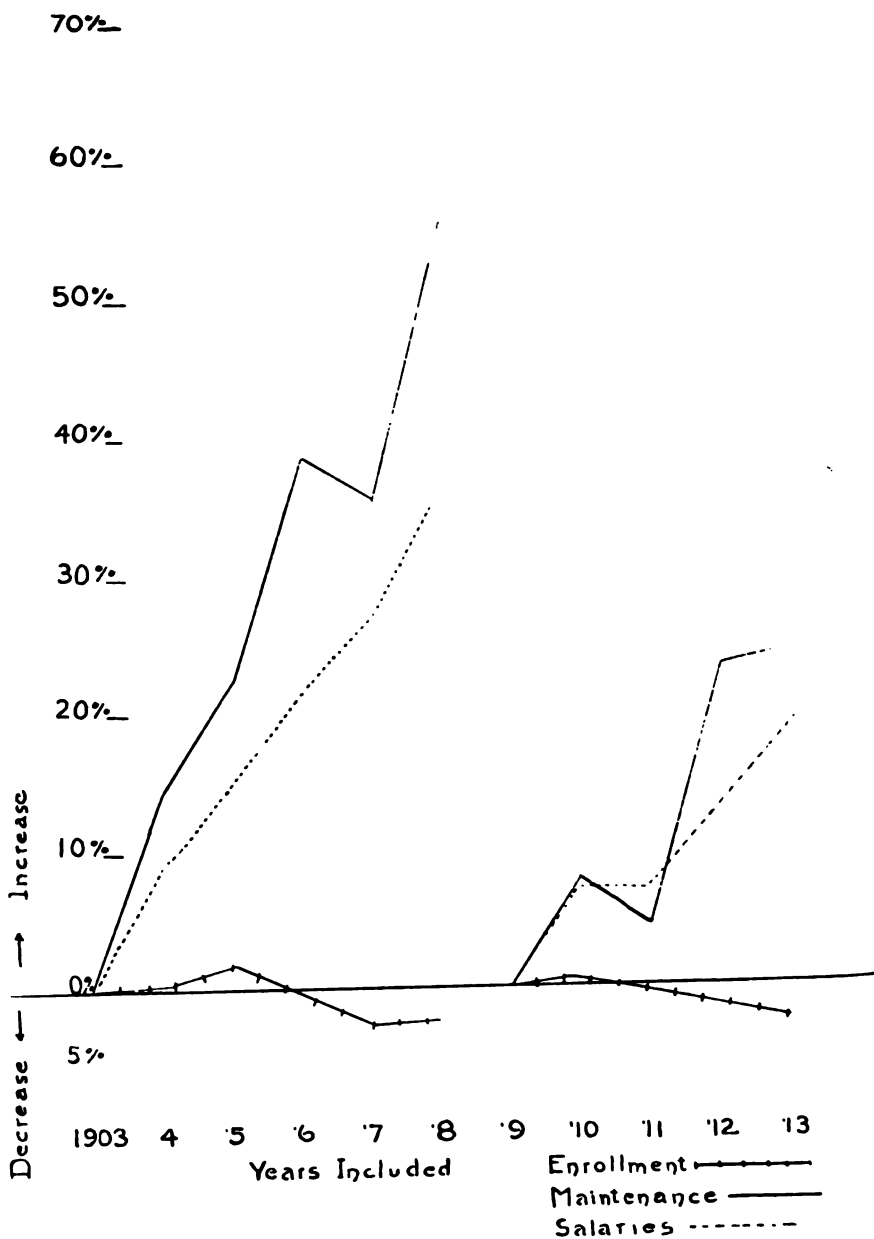


Figure 3^a
Changes in the rural schools of Minnesota during a period
of ten years

^a In 1909 the State Department of Education changed the basis for classifying the rural schools. Hence arises the necessity of the break in figure 3 between 1908 and 1909, beginning on the base line again for the latter year.

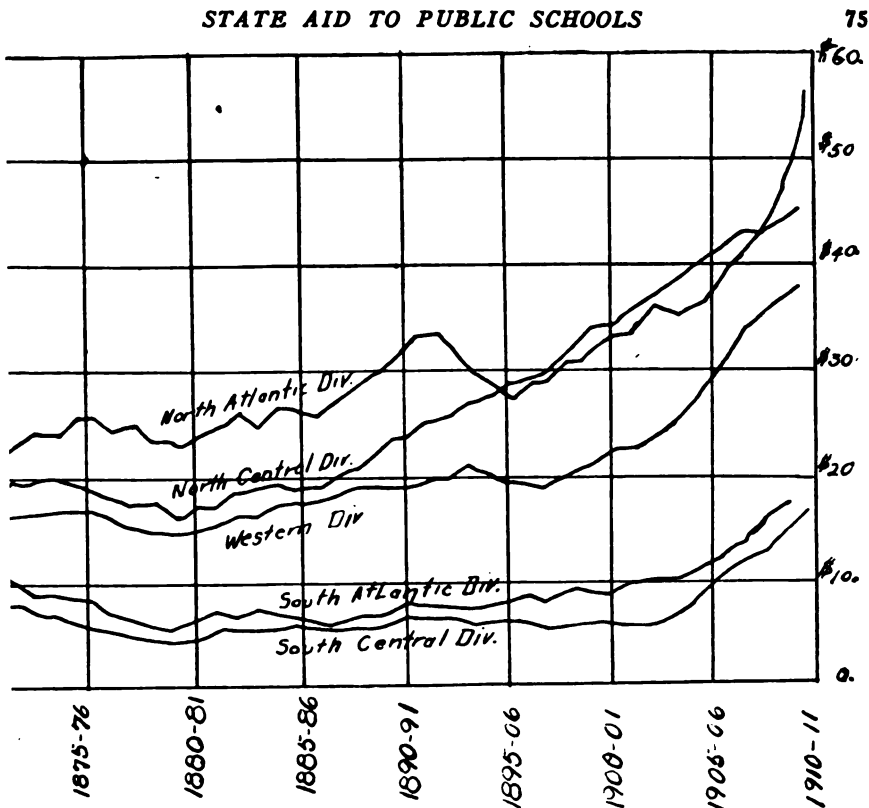


Figure 4¹

Increasing cost of education per pupil in average daily attendance

Having collected certain data we now have working concepts. By the use of these concepts we are able to determine the nature and extent of relations between certain important factors in the rural schools. The method of comparison is that of the Pearson coefficient. The figures used on the basis of the computations are distributions in the preceding tables.

TABLE XLIV

CORRELATIONS IN RURAL SCHOOLS

I. Number of days annual attendance per pupil and per cent that state aid is of total annual maintenance income.....	+ .11
II. Local tax levy and monthly salary of teacher.....	+ .18
III. Monthly salary of teacher and per cent that state aid is of total annual maintenance income.....	+ .24
IV. Local tax levy and per cent that state aid is of total annual maintenance income.....	— .32
V. Monthly salary of teacher and number of days annual attendance per pupil.....	+ .38

NOTE: None of these coefficients is corrected for attenuation.

¹ From *Rural Life and Education*, 99 (with the publisher's permission).

There are only two correlations that are of significance. The first is the one between the districts' special school tax levy and the amount that districts receive from the state for the support of their schools (IV). The relation here is negative and although unattenuated, large enough to indicate a decided tendency. There have been a good many statements made to the effect that state aid to rural schools has been an incentive to the schools to do greater things. It is probably true that the conditions requisite for aid have been complied with by the schools that have received this aid. Further than the specific changes brought by such compliance, however, the assertions of resulting benefit have not been demonstrated. They have never been more than opinions on the part of individuals who have more or less intimate knowledge of the facts and who represent great variability with respect to unbiased judgment on the issue.

Here is a correlation figure which shows that there is a marked tendency for rural school districts to raise, and hence to expend, *less* of their own money on schools, the *more* they are given in subsidy by the state. The influence of state aid is negative. Lower local school taxes accompany increase in state aid. So far as the special tax for school maintenance is a measure of local effort, state aid to rural schools has not been an incentive to such effort. The effects of such financial assistance have been rather to cause the benefited districts to make less exertion to maintain their schools than if the aid had not been given.

Some may still insist, of course, that in order for a school to receive any special state aid certain minimum requirements, enumerated above,¹⁰ must be met. To meet these requirements an extra expenditure is necessary. This fact may be quite true. We have no doubt that the incentive of obtaining state aid has served to increase the length of the school year in many districts. Just how far this has been true we have no basis for judging. It is highly significant, though, that after all the necessary standards have been met, the districts that receive the aid are able to make a financial profit to their tax payers because of this aid.

Again, it may be claimed that the districts which previously had the higher school taxes, receive the special aid, and hence it is only just that this aid should lessen the local burden. If this assertion were true it ought to follow that after special state aid had been given to a considerable number of districts over a period of time, rural school taxes would tend to approach a level. There is no indication anywhere that such a level exists or tends to exist by reason of such assistance.

Our discussion so far has included both those districts that receive special state aid and those that do not, the latter receiving only the apportionment. Let us look for a moment at the former, those districts receiving each kind of aid.

¹⁰ Chapter 2.

Of the 1,011 districts included in the study, 461 receive one of the three amounts of special state aid given to semi-graded and rural schools in 1912. The taxes in these 461 districts ranged as follows.¹¹

TABLE XLV
LOCAL TAX RATE IN MILLS

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	LOCAL TAX RATE IN MILLS
18	3.9	.3 to .5
55	11.9	.6 " .8
87	18.9	.9 " 1.1
78	16.9	1.2 " 1.4
65	14.1	1.5 " 1.7
37	8.0	1.8 " 2.0
30	6.5	2.1 " 2.3
28	6.1	2.4 " 2.6
10	2.2	2.7 " 2.9
11	2.4	3.0 " 3.2
8	1.7	3.3 " 3.5
5	1.1	3.6 " 3.8
6	1.3	3.9 " 4.1
3	.7	4.2 " 4.4
6	1.3	4.5 " 4.7
6	1.3	4.8 " 5.0
1	.2	5.1 " 5.3
2	.4	5.4 " 5.6
1	.2	6.6 " 6.8
1	.2	7.3 " 7.5
1	.2	7.9 " 8.1
1	.2	11.2 " 11.4

The median tax levy in these 461 districts is 1.4 mills on the dollar. In the middle fifty per cent of all the districts the levy is between .9 mills and 2 mills. In the 1,011 districts it is 1.9 mills on the dollar. There is a decrease of one fifth in the median amount of local effort expended in this group as compared with the group of all the rural districts.

We should naturally expect that the money which the state contributed toward the up-keep of the schools in these districts would be a larger proportion of the total annual maintenance receipts than for the 1,011 districts. Table XLVI shows that this is true.

The median portion of maintenance income which these 461 districts receive from the state is 46 per cent. The median for the 1,011 districts was 37.2 per cent. Thirty-four per cent of these districts receive one half or more of their annual income from the state. Only three per cent receive less than one fifth from the state, and only fourteen per cent receive less than one third from the state.

Between seventy-five and eighty per cent of the rural schools that receive special state aid are reimbursed more than one third of their total

¹¹ Based on true valuation as in table on p. 37.

maintenance fund; nearly one third receive from the state over 50 per cent of such fund; and it is possible for a district to receive nearly the whole amount from the state funds.¹²

TABLE XLVI
PER CENT THAT STATE AID IS OF DISTRICTS'
ANNUAL INCOME

NUMBER OF DISTRICTS	PER CENT OF ALL DISTRICTS	STATE AID— PER CENT
1	.2	5 to 7.9
2	.4	8 " 10.9
2	.4	11 " 13.9
4	.9	14 " 16.9
3	.7	17 " 19.9
2	.4	20 " 22.9
14	3.0	23 " 25.9
15	3.3	26 " 28.9
21	4.6	29 " 31.9
32	6.9	32 " 34.9
31	6.7	35 " 37.9
41	8.9	38 " 40.9
42	9.1	41 " 43.9
54	11.7	44 " 46.9
40	8.7	47 " 49.9
42	9.1	50 " 52.9
39	8.5	53 " 55.9
24	5.2	56 " 58.9
18	3.9	59 " 61.9
13	2.8	62 " 64.9
5	1.1	65 " 67.9
7	1.5	68 " 70.9
1	.2	71 " 73.9
4	.9	74 " 76.9
1	.2	77 " 79.9
2	.4	80 " 82.9
1	.2	83 " 99.9

The coefficient of correlation between the two items of local tax and per cent received from the state for these 461 districts is $+0.34$. Here again is a significant increase. In the first place, it is substantial evidence of the assertions already made concerning the relations of the item of local tax and state aid in rural districts. In the second place, it shows that

¹² *Preston Times*, Thursday, May 11, 1916. "The people of the Model School north of town met Friday evening and deliberately threw away good money,—that is a majority of them did, the minority, who knew better, were voted out and helpless. The proposition was to associate with the Agricultural Department of the Preston High School and they spurned it, cast it out as something unclean. The fact that the district now receives \$150, special state aid; \$90 from the Preston District for Model School purposes; \$70 apportionment, and could receive \$50 by associating, while it pays into the state treasury only \$62.90, did not affect the result; a net balance of \$298.90 was no argument at all,—to those who would be convinced. The ultimate result of this incomprehensible bull-headedness is the loss of the \$50 which it could have received by associating; a probable loss of its first-grade standing and the certain loss of the \$90, by reason of its selection as a Model School. Incidentally the Preston District is deprived of \$200 for Agricultural instruction and perhaps the abandoning of the Department altogether as we can not for long afford to bear alone an expense by which we are only indirectly benefited. The Model School district was given an opportunity to get something worth while absolutely without additional cost and refused it. Those responsible can now repent at leisure."

pecial state aid is the important factor in this increase of the figure of correlation. It must be, since no other condition has been changed from the conditions of all the 1,011 districts. In the third place, it shows that the current fund is equivalent to state aid in its general effect upon rural districts. If it were not, the correlation figure for the 1,011 districts would not be so large. For the state to pay a district \$5.30 for each and every child attending a total of forty days during the year is the same as for it to pay that sum for over ninety-nine per cent of all those who enroll.¹³ The low limiting condition of forty days attendance tends to approach no condition at all. In this particular then, the current fund receipts seem to act in a manner similar to that of the special aid to rural schools.

These results show conclusively that local endeavor among the constituency of the rural schools has a marked tendency to decrease as the state assists by special financial aid. This is a fact of tremendous significance. If the fifteen months' work of the Education Commission and his whole study brought forth nothing else, the whole cost involved would be many times made up to the state should this one fact be made the basis of action in distributing aid. One difficulty in attaining the desired goal is that appropriations for these funds have not been settled according to educational needs or expected results. Intelligent laymen recognize this fact.

The Dawson, Minnesota, *Sentinel* darkly intimates that dire things are to happen to those members of the legislature who succeeded in preventing the division of a million dollars among the rural schools of the state.

The *Sentinel* also resents the tendency of the press to speak of this plan as a "Pork Barrel" proposition. It denounces as inconsistent the appropriation of millions for the University and Normal schools, and denial of an extra million to the rural schools, "which educate half a million children every year, and furnish ninety-nine per cent of the people all the training for citizenship they ever receive."

The fact that the University and Normal schools are purely state institutions, while the common schools are local institutions, does not seem to have occurred to the *Sentinel* as important. Its reasoning points to a theory that the state should raise taxes enough to pay for all the schools, though state control of the local schools would doubtless be resented.

Such arguments as these miss completely the purpose of state aid to local schools. This aid is given as a stimulus to better work. It is conditioned on local performances of certain things,—quality of teaching, length of terms taught, number of pupils, and so on.

When state aid becomes merely a means of maintenance and of lifting from the various school districts their financial burdens, it misses its purpose. The distribution of an extra million among the rural schools, it seems to us, was properly characterized as a "Pork Barrel" proposal. It was not intended for the good of the schools, but for the relief of local tax payers. Its killing was one of the few good things the legislature did.¹⁴

¹³ See table 35.

¹⁴ Editorial in the *Minneapolis Journal*, May 3, 1915.

The second of the two correlations worthy of note is the one between teachers' monthly salaries and the number of days attended annually per pupil. The correlation figure is significantly large; and it is positive. Pupils go to school more days in a year in those districts where the teachers are paid the highest wages. This figure does not tell why the fact is true. It merely tells the fact, and is in itself proof that there is a strong tendency for the two facts to accompany each other.

The significance of the presence of the two above relations is equalled in importance only by the lack of those relations one would naturally expect but does not find. There is no indication that state aid, even in causing fulfillment of the minimum requirements for its bestowal, has made any difference in the number of days a pupil attends school in a year. We do know, on the other hand, that the well paid teacher and long attendance tend to go together. Does state aid raise teachers' salaries? Not so far as we can discover. Neither directly, then, nor indirectly, has this aid any apparent result in causing country children actually to spend more days in the schools. One naturally asks where it does count. The facts discovered answer "to no small degree, in lessening the local tax." We may be quite as much surprised to discover that high taxes and high salaries are not coexistent. Such is the truth, however, in spite of the fact that increased salaries seem to account in a large part for great increase in the total annual cost of these schools.

TABLE XLVII
INCREASE IN THE NUMBER OF SCHOOLS HAVING A TOTAL
ANNUAL ENROLLMENT OF LESS THAN TEN PUPILS EACH

YEAR	NUMBER OF SCHOOLS	PER CENT INCREASE OVER 1903-04
1903-1904	189	....
1904-1905	228	20.6
1905-1906	237	25.4
1906-1907	252	33.3
1907-1908	258	36.5
1908-1909	278	47.1
1909-1910	335	77.2
1910-1911	346	83.0
1911-1912	360	85.2
1912-1913	373	97.3

THE SMALL RURAL SCHOOL

In the course of this part of the study it was accidentally discovered that there are in this state a large number of schools with remarkably small annual enrollments, each school enrolling less than ten pupils indeed, during the whole year's session. A review of the last few years shows a great increase in the number of these small schools. The biennial reports

of the state superintendent of education show that the number of schools enrolling less than ten pupils increased over ninety-seven per cent between 1903 and 1912. This is brought out more clearly in Table XLVII and Figure 5.

This table reads: In the school year 1903-04 Minnesota had 189 rural schools, each enrolling a total of less than ten pupils. In 1904-05 the number of such schools in the entire state was 228, an increase of 20.6 per cent over the number in 1903-04; in 1904-05 the number was 237, an increase of 25.4 per cent over 1903-04; etc.

The increase in the number of these schools between 1903 and 1912 is almost twice the proportional increase in the next larger enrollment-school reported. Schools enrolling between ten and twenty pupils have increased only a little over fifty-seven per cent in the same period of time.

TABLE XLVIII
INCREASE IN THE NUMBER OF SCHOOLS HAVING A TOTAL
ENROLLMENT OF TEN TO TWENTY PUPILS EACH

YEAR	NUMBER OF SCHOOLS ENROLLING 10 TO 20 PUPILS	PER CENT INCREASE IN NUMBER SINCE 1903
1903-1904	1,204	.....
1904-1905	1,294	7.4
1905-1906	1,369	13.7
1906-1907	1,467	21.8
1907-1908	1,621	34.6
1908-1909	1,703	41.5
1909-1910	1,834	52.3
1910-1911	1,911	58.7
1911-1912	1,802	49.6
1912-1913	1,896	57.4

The smallest school seems to persist more in the very old, or in the new, sparsely developed states. Virginia, Maine, Ohio, Iowa, and North Dakota illustrate these two types.¹⁵ But Minnesota can not be called old, neither as a state is it undeveloped or scantily populated. Special state aid has been given to rural schools in the state since 1899, when 457 one-room schools were aided. In 1912 over 4,400 received such aid.¹⁶ In Indiana, the township trustees may "discontinue and temporarily abandon all schools at which the average daily attendance during the last preceding year has been fifteen pupils or fewer"; they "*shall*"¹⁷ discontinue and temporarily abandon" schools whose daily average attendance has been twelve or less, though a majority of the patrons of the district may by petition reopen either.¹⁸

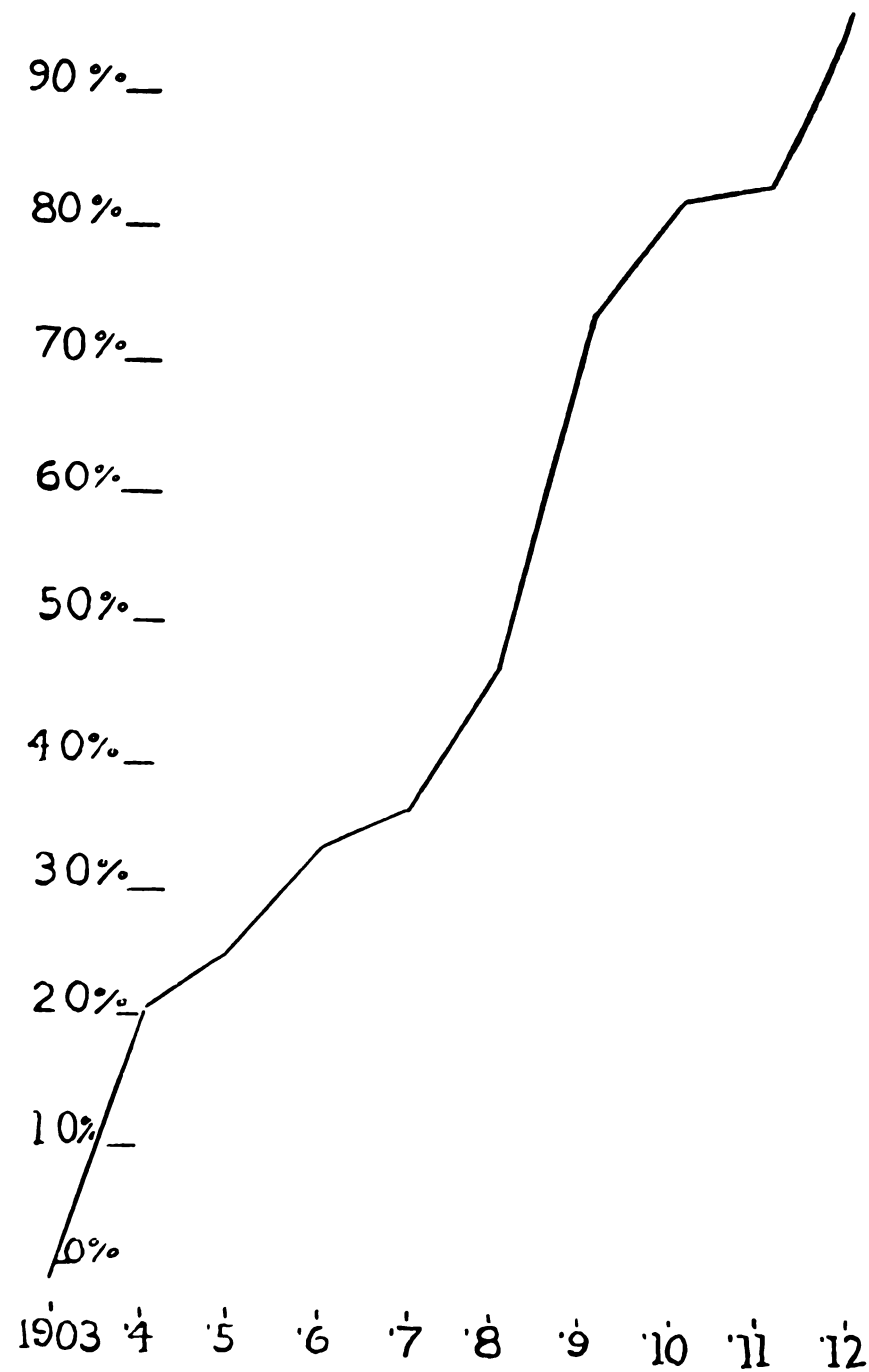
¹⁵ Gillette, *Constructive Rural Sociology*, 236, 237. Also *United States Bureau of Education Bulletin* no. 8 p. 26. 1913.

¹⁶ *Eighteenth Biennial Report, State Superintendent of Public Instruction*, 13. See also Appendix.

¹⁷ Italics are the author's.

¹⁸ *Revised Statutes of Indiana*, 1914 sec. 6422.

Figure 5
Increase in ten years in schools enrolling
less than ten pupils



is condition presents a very serious situation. There ought to be less ten-pupil schools in the entire state of Minnesota, even though the state is not yet fully developed. That this type of school has practically increased in numbers in ten years and is near the four hundred mark is a condition that should demand immediate attention.

There are four possible reasons for this increase. These reasons are:

- I. Development of previously unsettled portions of the state into sparsely settled regions.
- II. Shrinkage of rural population in previously developed portions of the state.

TABLE XLIX

PER CENT OF CHANGES IN POPULATION IN THIRTY-FOUR
COUNTIES OF MINNESOTA BETWEEN 1900 AND 1910*

COUNTY	TOTAL DECREASE	RURAL DECREASE
	Per cent	Per cent
Blue Earth.....	9.1	12.4
Carver.....	.5	.5
Dodge.....	9.3	9.3
Douglas.....	1.6	4.0
Faribault.....	9.5	9.5
Fillmore.....	9.1	9.1
Freeborn.....	*	7.2
Goodhue.....	*	4.3
Houston.....	7.2	7.2
Jackson.....	2.0	2.0
Kandiyohi.....	*	1.2
Le Sueur.....	8.0	8.0
McLeod.....	4.6	4.6
Mahnomen.....	.02	.02
Meeker.....	4.1	4.1
Mower.....	*	7.0
Murray.....	1.3	1.3
Nicollet.....	4.4	5.0
Norman.....	.02	.02
Olmsted.....	2.7	10.0
Otter Tail.....	*	.4
Polk.....	*	7.4
Renville.....	2.4	2.4
Rice.....	.6	9.0
Scott.....	1.7	1.7
Sibley.....	7.8	7.8
Steele.....	2.3	4.3
Stevens.....	4.9	4.9
Swift.....	4.1	4.1
Wabasha.....	2.0	6.3
Waseca.....	8.8	10.7
Watsonwan.....	1.0	1.0
Winona.....	6.4	7.2
Wright.....	3.7	3.7

*Increase of less than 5 per cent.

*Thirteenth Report of the United States Census 2:962.

III. Migration of rural school population to village or urban school enrollment.

IV. Special state aid to rural schools.

I. Let us consider the first possible influence, that of populating previously undeveloped parts of the state. Very fortunately for this study the decade included in the last report of the Federal Census overlaps that of the years above included. The census covers the years between 1900 and 1910, and this study, the school years 1903-04 to 1912-13 inclusive. Comparisons of items covering these two periods can thus be made and conclusions can be drawn concerning items or factors present throughout the two periods.

According to the census report, thirty-four, or 43 per cent, of the counties in Minnesota decreased in rural population in the decade between 1900 and 1910.

Nineteen of these thirty-four, or 24 per cent of all the counties, decreased in total population. Of the remaining forty-five counties, six showed in spite of rural shrinkage, slight increases in their respective totals. A list is an alphabetical list of the thirty-four counties and the percentage changes both in total and in rural population for each county.

TABLE L
DISTRIBUTION OF PER CENT OF DECREASE IN POPULATION IN
THIRTY-FOUR OF THE COUNTIES OF MINNESOTA
BETWEEN 1900 AND 1910

PER CENT OF DECREASE	NUMBER OF COUNTIES
Less than 1 per cent.	4
1 to 1.99.....	4
2 " 2.99.....	2
3 " 3.99.....	1
4 " 4.99.....	7
5 " 5.99.....	1
6 " 6.99.....	1
7 " 7.99.....	6
8 " 8.99.....	1
9 " 9.99.....	4
10 " 10.99.....	2
11 " 11.99.....	0
12 " 12.99.....	1

Twenty-seven counties in the state show more or less noticeable increase in the number of less-than-ten-pupil schools between 1903-04 and 1912-13. Below is an alphabetical list of these counties showing:

First, increase in number of smallest division of rural schools.

Second, per cent of decrease or increase of rural population in counties.

TABLE LI
IN RURAL SCHOOLS AND IN RURAL POPULATION IN TWENTY-EIGHT
COUNTIES OF MINNESOTA BETWEEN 1900 AND 1910

COUNTY	NUMBER OF 10-PUPIL SCHOOLS		CHANGES IN RURAL POPULATION FROM 1900 TO 1910
	1903-04	1912-13	
.....	6	11	Per cent minus 12.4
.....	0	4	plus 50.
1.....	1	10	" 5.
.....	3	16	" 15. to 25
.....	10	12	" 5.
.....	2	5	minus 9.3
.....	11	12	" 9.1
.....	4	10	" 4.3
.....	0	4	plus 5.
.....	2	8	minus 7.2
.....	2	14	plus 25. to 50
.....	2	4	minus .2
.....	3	7	" 8.
.....	0	5	" .02
.....	2	12	plus 5. to 15
.....	7	12	minus 7.0
.....	2	9	" .02
.....	1	4	" .4
.....	1	3	plus 5.
.....	2	13	minus 7.4
.....	2	3	plus 15. to 25
.....	0	5	" 5.
.....	0	5	" 5. to 15
.....	0	8	" 5.
.....	6	8	minus 10.7
.....	10	15	" 6.3
.....	5	8	" 7.2

istribution shows the relation between change in percentage of population and increase of less-than-ten-pupil schools. It is true that Crow and Crow Wing counties, with marked population increase, had a large growth in the number of such schools. But Morrison, Good, Rock, and Todd, each with small population growth, gained in the same size schools; while Dakota, with little gain, but a small county, has almost as many such schools as either of the first

must conclude, then, that if opening new land and settling the west part of the state has had any influence in the increase of the practicing in the number of less-than-ten-pupil schools in the last decade that influence has been meager and localized.

What influence upon the number of these schools has shrinkage of population had? Table LII shows that this factor has had a marked influence than population increase. No county had lost as much as thirteen per cent of the rural population it had ten years before, while five had gained more than this in the same period.

All but four of the decreases occurred south of a horizontal line drawn on the map through Minneapolis. Of those four, one was seven per cent, but no one of the rest was as much as one per cent. The population shrinkage has then been small, and has occurred almost altogether in the thickly populated counties.

These facts force us to conclude that the factor of shrinkage in rural population does not materially assist in explaining the great increase in small schools.

TABLE LII
TABLE LI ARRANGED AS ARRAY OF PERCENTAGE OF RURAL POPULATION CHANGES

COUNTY	POPULATION CHANGES		SCHOOL CHANGES
	Increase	Decrease	
	Per cent	Per cent	
1. Clearwater.....	50		0 to 4
2. Hubbard.....	25 to 50		2 " 14
3. Crow Wing.....	15 " 25		3 " 16
4. Red Lake.....	15 " 25		2 " 3
5. Morrison.....	5 " 15		2 " 12
6. Sherburne.....	5 " 15		0 " 5
7. Cottonwood.....	5		1 " 10
8. Dakota.....	5		10 " 12
9. Grant.....	5		0 " 4
10. Pine.....	5		1 " 3
11. Rock.....	5		0 " 5
12. Todd.....	5		0 " 8
13. Marshall.....		.02	0 " 5
14. Norman.....		.02	2 " 9
15. Jackson.....		.2	2 " 4
16. Otter Tail.....		.4	1 " 4
17. Goodhue.....		4.3	4 " 10
18. Wabasha.....		6.3	10 " 15
19. Mower.....		7.0	7 " 12
20. Houston.....		7.2	2 " 8
21. Winona.....		7.2	5 " 8
22. Polk.....		7.4	2 " 13
23. Le Sueur.....		8.0	3 " 7
24. Fillmore.....		9.1	11 " 12
25. Dodge.....		9.3	2 " 5
26. Waseca.....		10.7	6 " 8
27. Blue Earth.....		12.4	6 " 11

III. The third possible reason mentioned was migration of rural school population to urban school enrollment. Above is shown the number of grade schools and the number of high schools in each of the twenty-seven counties in discussion in 1903, and the number of new schools added in each county by 1912.²⁰

²⁰ A school transferred from the list of graded to high schools within this time is not counted as new if it was on the graded list in 1903. Only schools named in 1912 that were not named in either list in 1903 are counted in the list of those added,—that is, as new schools.

TABLE LIII
CHANGES IN SCHOOLS BY COUNTIES

COUNTIES	GRADED SCHOOLS	HIGH SCHOOLS	SCHOOLS ADDED NOT LATER THAN 1912	CHANGES IN RURAL SCHOOLS 1903-1912
	1903			
Wing.....	0	1	0	3 to 16
Water.....	0	0	0	0 " 4
B.....	3	4	0	2 " 5
Don.....	3	1	0	2 " 8
Hard.....	1	0	0	2 " 14
Don.....	0	2	0	2 " 4
Cur.....	2	2	0	3 " 7
Hall.....	1	1	0	0 " 5
.....	0	0	0	1 " 3
Lake.....	0	1	0	2 " 3
La.....	0	3	0	6 " 8
Lue.....	0	4	1	4 " 10
Fr.....	3	3	1	7 " 12
La.....	0	2	1	5 " 8
Nwood.....	2	1	2	1 " 10
La.....	1	2	2	10 " 12
.....	2	4	2	2 " 13
.....	0	1	2	0 " 5
Sha.....	1	3	2	10 " 15
Earth.....	2	3	3	6 " 11
Pre.....	2	5	3	11 " 12
.....	0	2	3	0 " 4
Son.....	0	1	3	2 " 12
An.....	2	1	3	2 " 9
Tail.....	2	3	3	1 " 4
Urne.....	0	1	3	0 " 5
.....	3	1	3	0 " 8

but what of the graded and high schools already existing? Did they
 ve any increase in the number of children from rural districts?

We are able to give only a partial answer.

ixteen schools were transferred from the graded to the high school
 n these years and a total of thirty-four near schools were added. In
 ounty was there any addition where there had been neither a graded
 igh school before.

Three counties added 1 school
 Five " " 2 schools
 Seven " " 3 "

he distribution of these additions does not indicate any clearly marked
 on between the above additions and the increase in small rural
 ls. The annual reports of the state inspector of high schools divide
 igh school enrollment between those residing in the district and those
 ling from outside. The following figures show what per cent have
 from outside districts for nine of the years under discussion.

TABLE LIV
PER CENT OF HIGH SCHOOL ENROLLMENT FROM OUTSIDE¹

YEARS	PER CENT OF OUTSIDE ENROLLMENT (MEDIAN)
1904-05	14.2
1905-06	14.3
1906-07	14.3
1907-08	14.6
1908-09	15.2
1909-10	16.0
1910-11	16.4
1911-12	16.2

Similar figures are not available for graded schools.

From the above data one is not justified in drawing the conclusion that the presence and increase in the number of high schools may not have been a factor in the number of small rural schools. On the other hand, one would be far from justified in concluding that the small rural school situation for the state has been materially affected by this factor.

IV. The fourth possible factor named as influencing this situation is state aid. There are two reasons why this appears as even a possibility. In the first place, we have already found out that state aid to the single-room school tends to reimburse the tax payers of the district for running their school. They accept the gift, pay no perceptibly higher salary to their teacher, have no more days attendance to the credit of their register, and have a smaller school tax to pay. The implication is strong that the school is about the same kind of a school as before the state helped, only the patron pays a little less for its up-keep.

But secondly, the small school is an expensive one, per capita. To offset this expense there must be some counteracting incentive toward its continued maintenance. A part of such incentive is present in the very conservatism of the patron.² He wants things to go on as they have gone in the past. Add to this conservatism the knowledge by the conservatist that the state for a slight consideration stands ready to pay him to keep up old conditions, and the incentive is not only fostered, but the rural patron feels that his commonwealth sanctions his stand and gives him, so far as he is concerned, as high an endorsement as he can receive.

The influence of the state aid upon the small school as compared with the typical rural school of the state is shown more clearly by a comparison of items in the following table, based on 1,185 schools from the fourteen counties included in this study.

¹ This is for all high schools receiving state aid. Data are computed from annual reports of state high school inspector.

² See *Rural Life and Education*, 167, et seq.

TABLE LV

Schools Having an enrollment of	I Number of schools	II Enrollment	III Attendance per pupil per year	IV Cost per pupil per day	V Special school tax
			Days		Mills
10 pupils.....	46	7	96.5	50.7c	7.6
20 pupils.....	282	15	95.6	30.4c	8.1
30 pupils.....	478	24	101.7	22.3c	5.8
40 pupils.....	281	32	104.0	17.8c	6.3
40 pupils.....	98	43	100.1	13.4c	4.9

figures in Column I are absolute. The figures in Columns II, and V are medians. The meaning of the table becomes clear when,—The schools enrolling less than 10 pupils are 46 in number; there is a median enrollment of 7 pupils each; their pupils attend 96.5 days during the year; each pupil costs his district 50.7 cents each attends and each district levies a special school tax of 7.6 mills assessed valuation to maintain its schools.

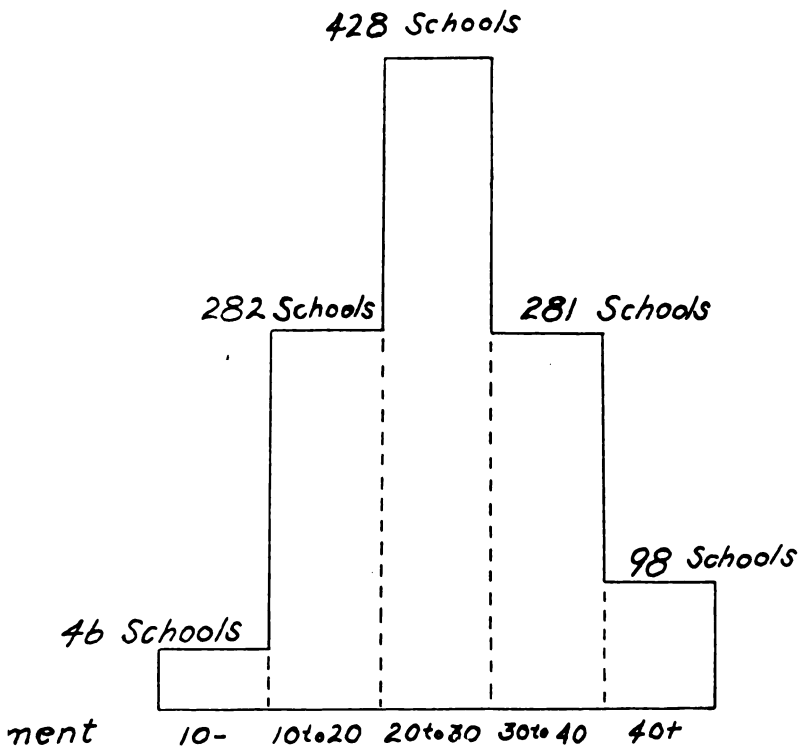


Figure 6

Distribution of 1,185 rural schools according to annual enrollment

The table discloses several interesting features. Column I shows quite a normal distribution of schools among the groups according to enrollment. This fact is shown even more clearly by Figure 6.

The "20 to 30" school is clearly the typical school.

The less-than-ten-pupil school costs about two-and-one-half times per pupil what the typical school costs. In the first group of schools, seven pupils cost their district \$2.50 each, every week school is open; in the second group of schools twenty-four pupils cost their district \$1.00 each per week.

The changes that have come into rural society and institutions in the past fifty years have been inimical to the rural institutions acclimated to former conditions. "Studies of the rural church problems have been made in the New England states, New York, Pennsylvania, Ohio, Illinois, Georgia, and other states. Everywhere the results are about the same. At the Michigan Rural Life Conference in 1911, it was stated that there were 10,000 dead rural churches in Illinois; 10,000 more about to die; and 500 already abandoned."²³ It is well asserted that rural schools would be suffering the same sort of hardship were it not for the resuscitating effect of state aid.²⁴ This is true of the rural situation as a whole. It is true to an intensified degree with the schools that are nearest the border of extinction through the operation of new social, industrial, and economic factors.²⁵

After the consideration of the evidence offered, we may reasonably conclude that development of new parts of the state has doubtless been responsible for a few small rural schools; that shrinkage in rural population may have been responsible for a few, but if so, for a very few; that migration of school children from country homes to village schools has doubtless depleted country districts and assisted in some measure in making the small rural school; but as great a single factor as any has been the financial assistance which the state renders on conditions that tend positively toward the continuance of such schools.

SUMMARY

The typical rural school of Minnesota is open 7.7 months each year, enrolls between 20 and 30 pupils, who attend 97.7 days each. Each pupil costs his district about 23 cents each day he attends school, 8.8 cents of which is paid by the state, while the district levies a tax of 1.7 mills on its true valuation to meet its share of the expense. The teacher in this school receives a wage of a little more than \$51 per month.

²³ *Rural Life and Education* ch. 3.

²⁴ *Ibid.*, ch. 4.

²⁵ *Ibid.* See also *Constructive Rural Sociology*.

EFFECTS OF STATE AID

State aid to rural schools has probably increased the length of the school year to some extent, but not so much as one is led to suppose by a cursory survey; it has not resulted in any increase in the number of days that children attend these schools; it has not increased enrollment; it has not been a factor in increasing teachers' salaries in these schools. Special state aid and current fund together have definitely resulted in the state's paying over two fifths of the cost of up-keep of the districts receiving such aid and by such reimbursement have resulted in the districts' being content to maintain educational standards little or none above the ones previously maintained; they have made the districts willing to accept state aid as a pecuniary endorsement of these educational standards and as a financial reimbursement to their own district treasuries. By encouraging the maintenance of the dwarf rural school, by having attached to its betowal no conditions regarding enrollment, local taxation, local assessed valuation, and with extremely imperfect possibilities of checking whether the conditions presumed to be met have been met, state aid as it is at present distributed to the rural schools of Minnesota acts positively as a barrier to the advancement of the best interests of these schools and their patrons.²⁶ It is educationally pauperizing the rural schools of the state.

TABLE LVI
RURAL SCHOOL SUMMARY

ITEM	MEDIAN	QUARTILES	
annual attendance per pupil.....	97.9 days	81 days	112 days
cost per pupil day	22.9 cents	17.08 cents	31.86 cents
aid per pupil day.....	8.8 cents	6.2 cents	9.5 cents
per cent state aid is of total annual income.....	37.2 per cent ²⁷ 46 per cent ²⁸	25.7 per cent	45.5 per cent
local tax levy.....	1.7 mills ²⁷ 1.4 mills ²⁸	1.1 mills ²⁷ .9 mills ²⁸	1.58 mills ²⁷ 2.00 mills ²⁸
assessed valuation per pupil.....	\$2,195	\$1,321	\$3,273
length of school year.....	7.7 months	6.9 months	7.8 months
monthly salary of teacher.....	\$51.14	\$45.63	\$56.30

²⁶ Cf. Betts, *New Ideals in Rural Schools* ch. 1.

²⁷ Item for 1,011 districts.

²⁸ Item for 461 districts.

CHAPTER VI

SPECIAL AID TO HIGH, GRADED, AND RURAL SCHOOLS COMPARED

In Chapters III, IV, and V, the facts for high, graded, and rural districts, respectively, have been set forth. All the factors discussed have not been identical for all the three groups. Seven, though, have been studied for each group of schools. They have to do with: (1) length of the school year; (2) attendance; (3) unit cost; (4) unit aid; (5) gross proportion of aid; (6) local school tax levy; and (7) assessed valuation.

The purpose of this chapter is to make direct comparisons among the three classes of schools. This will be done first for each of the above named items: (1) by reproducing from the three preceding chapters the medians and quartiles of the distributions for each item, and (2) by showing graphically on the same base the complete (100 per cent) distribution of each item for each of the three groups of schools.

TABLE A
LENGTH OF SCHOOL YEAR IN MONTHS

SCHOOL	MEDIAN	QUARTILES	
High.....	9	*	*
Graded.....	9	*	*
Rural.....	7.7	6.9	7.8

* Negligible in amount.

No attempt is made to determine variations from the central tendency among either high or graded school systems in the length of the school year. The law requires schools receiving special aid in either of these groups to be in session at least nine months.¹ Very few have longer sessions. All rural schools classed as semi-graded, and Classes A and B of the common schools must have eight months of school.² Those in Class C may have seven months.³ The general conditions among rural schools as compared with high and graded seems to be that they have from one to two months less of school per year than either high or graded districts. About 75 per cent of the rural schools have at least eight months of school but only a little more than 19 per cent have as much as nine months, or what is required of the high and graded schools.

The amount of assessable property which a district possesses for every child within its schools represents the district's dynamic resources for

¹ See Chapter 2.

² *Ibid.*

³ *Ibid.*

educating that child. The only place where such a statement should be modified for the sake of comparative justice would be in large cities. Since none of them are included in these calculations this is a true statement for the groups of districts involved.

TABLE B
ASSESSED VALUATION PER ENROLLED PUPIL

SCHOOL	MEDIAN	QUANTILES	
High.....	\$1,186	\$ 937	\$1,610
Graded.....	1,254	1,034	1,582
Rural.....	2,195	1,321	3,273

The total taxable resources of one district may be considerably higher than those of another. The only fair method of comparing the two is to measure each in terms of the potential draw upon the resources. The number of children actually presenting themselves for the public schools to educate is one measure of such draw.

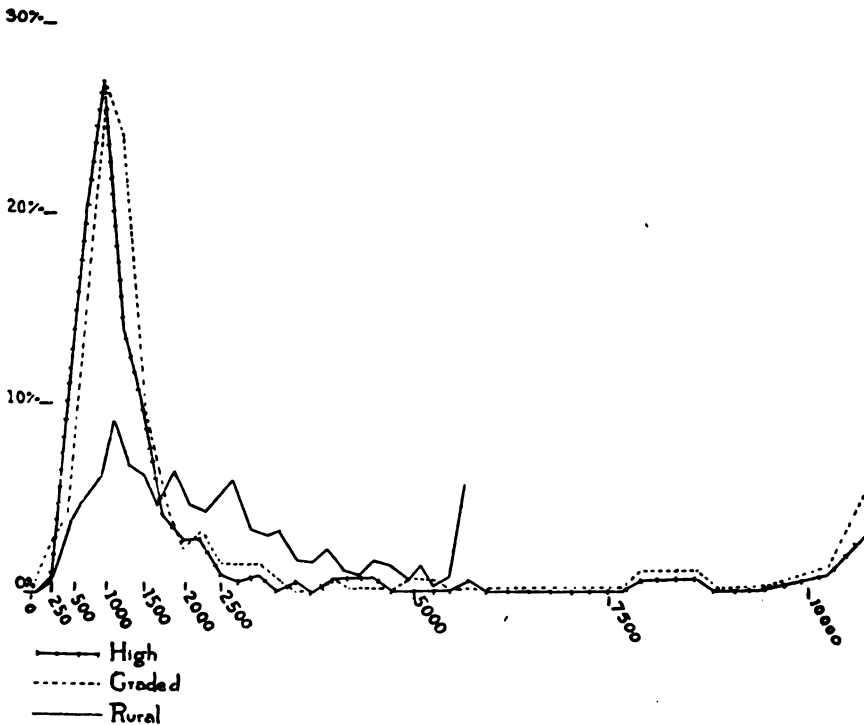


Figure 7
Assessed valuation per enrolled pupil

When the three groups of schools are compared on this basis most striking facts appear. The financial resources of these three groups are in reverse order to the ranking type of schools they represent. The valuation in rural districts puts at their disposal almost twice the median taxable property for every child in their schools that high school districts possess. The lowest quartile of rural valuation is higher than the median for either high or graded districts. The assessed valuation per pupil in graded school districts is less than \$100 more than such valuation in high school districts; it is, however, \$900 less than such valuation in rural districts. The variability in this item is considerably greater among high and graded than among rural schools.

The median valuation for rural districts might be less if a larger number of districts had been taken. It does not seem, though, as if that change would materially affect the figure. The selection made was a random selection among the 1,011 districts in the order of the numbers assigned them in their respective counties upon their organization. Here is basis for a complete reversal of the judgment that rural districts are economically not so able to support good schools as municipal and village corporations. The truth is that they are on the whole twice as able in Minnesota to spend any given amount, for every child attending their schools, as are the two other groups here represented.

Compared with the other groups of schools, rural schools are by far the wealthiest in financial resources for educative purposes. Yet, as we have already seen, the annual length of possible school attendance which they offer their children is the shortest.

TABLE C
ATTENDANCE PER PUPIL IN DAYS PER YEAR

SCHOOL	MEDIAN	QUARTILES	
High.....	147.4	142.4	154.4
Graded.....	138.7	128.6	147.2
Rural.....	98.0	81.0	112.4

Inasmuch as the rural school year is shorter than the year in either of the other classes of schools we would expect the children of the rural school to attend fewer days each per year. The above comparison shows such expectation to be correct. But though high and graded districts have practically the same length of school year, their children do not give the same response of attendance. The median attendance of children in high school districts is 62 per cent of the total possible attendance, 180 days in graded, it is 77 per cent; and in rural, it is 64 per cent of the median length of the school year. These per cents represent a measure of re

sponse to educational privilege offered. Since the privileges are different 64 per cent can not be compared absolutely with 77 per cent or with 82 per cent. If the corresponding quality of educational privilege now given to the groups responding 82 per cent were given to the groups responding 64 per cent the latter might rise above 82 per cent. There is no basis therefore for an absolute comparison of the measure of response to the same thing or to equivalent things.

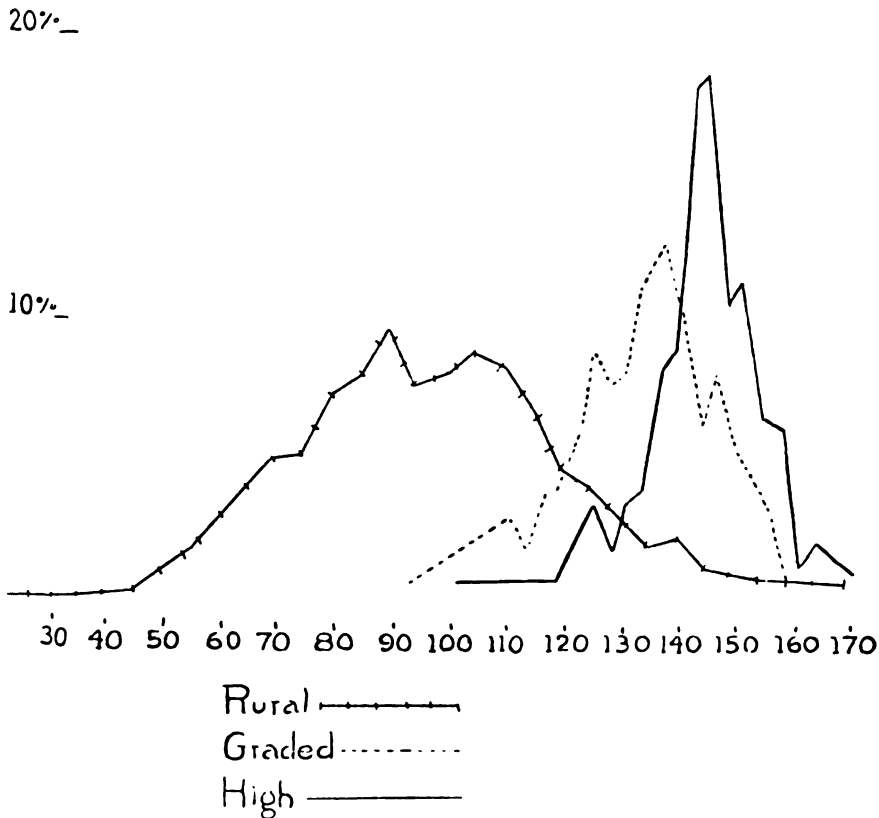


Figure 8
Pupil attendance in days per year

On the other hand this is a definite measure of school attendance, 53 per cent of the rural schools have an average attendance of less than 100 days per pupil. This is a shorter attendance than any single high school district reports and less than all except one half of one per cent (one district) among the graded schools, report. That is to say, the child attending in a high or graded school district has double the chance of being at school

100 days a year that the child attending the rural school has. The responding chances for attending 120 days are not far from as great. than 16 per cent of the rural districts have such attendance, while 9 per cent of the graded and 99 per cent of the high have it.

It is quite as interesting to note that the highest extreme of rural school attendance exceeds any graded district and practically equals the high school district.

TABLE D
COST PER PUPIL PER DAY IN CENTS

SCHOOL	MEDIAN	QUARTILES	
High.....	25.7	21.5	29.9
Graded.....	23.0	19.4	28.7
Rural.....	22.9	17.1	21.9

The actual time-unit cost rank is in the order corresponding to types of schools. At the same time there are small differences in this among the schools. There is practically no difference between the median cost for graded and for rural schools. The range of variability is more striking. Costs in rural schools reach the highest extreme both the quartile and in actual cases. There are several possible reasons for this condition. It is but consistent with what has already been shown to suppose that small enrollment plays its subtle part in high unit cost in rural schools.

The cost is less than 30 cents a day in 70 per cent of the rural districts, in 75 per cent of the high, and in 80 per cent of the graded. It is less than 20 cents in 38 per cent of the rural, in 14 per cent of the high, and 21 per cent of the graded. Though rural schools have the greatest variability they also have the most strongly marked central tendency.

TABLE E
AID PER PUPIL-DAY IN CENTS

SCHOOL	MEDIAN	QUARTILES	
High.....	7.5	6.1	9.8
Graded.....	7.1	6.4	8.4
Rural.....	8.9	6.2	9.5

A very interesting item in this connection is how state aid, computed on the time or attendance unit base, compares with the actual cost on the same basis. We are at once struck with the lack of conformity in this respect. Rural districts receive a median amount of the most per capita more even than high school districts and the quartiles reinforce the

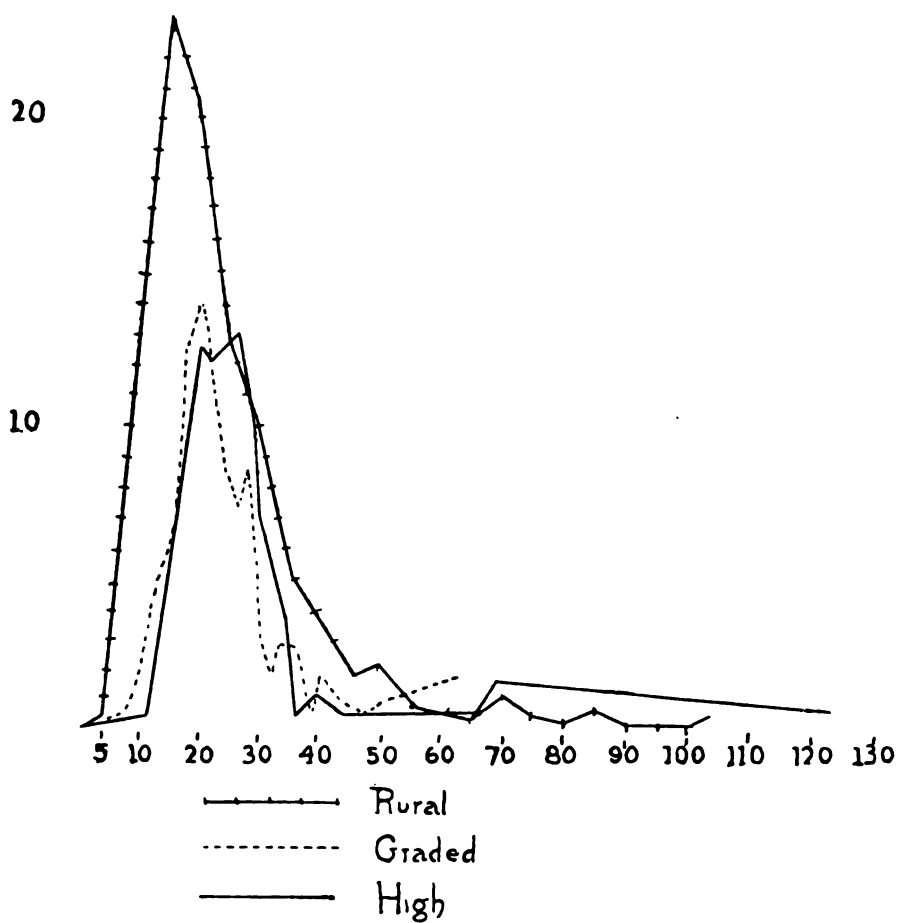


Figure 9
Cost per day of attendance per pupil

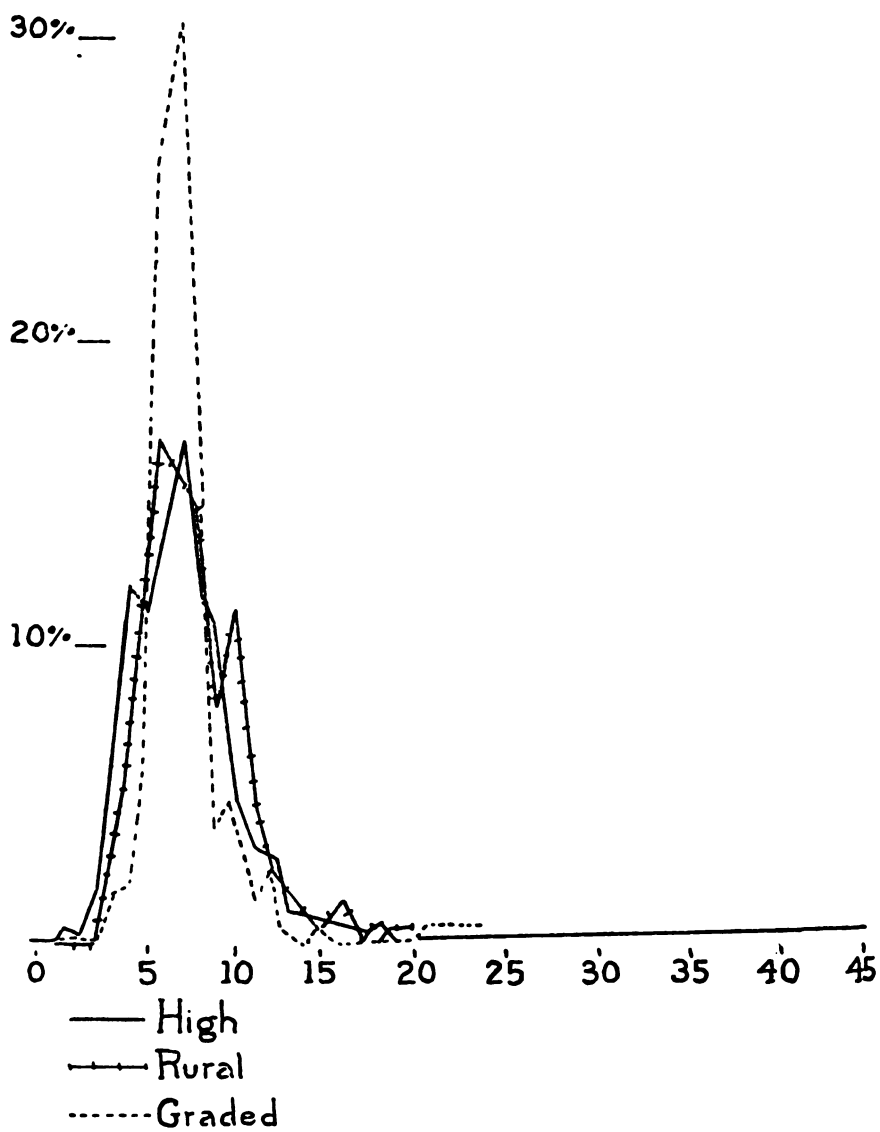


Figure 10
Aid per day of attendance per pupil

which the medians tell. Graded and high schools are close together with the high in the lead both in median aid received and in the variability of aid.

In 25 per cent of the rural districts the aid is 10 cents or more. Twenty-four per cent of the high school districts and 11 per cent of the graded districts receive similar aid.

These findings should be compared with those of what proportion state aid is of the total annual income of the district.

TABLE F
PER CENT OF STATE AID PER YEAR

SCHOOL	MEDIAN	QUARTILES	
High.....	32.2	25.3	37.8
Graded.....	33.0	27.6	38.4
Rural (1,011).....	37.2	25.7	45.5
(461).....	46.0	38.4	52.9

In the per cent of total maintenance income which is received from state aid, high and graded school districts are very similar both in central tendencies and in quartiles. Again they are outdone by rural districts. Among the 1,011 districts this proportion is between one sixth and one seventh more than for either of the other groups. But in this item comparison should be made rather with the 461 districts. They receive more than one and two fifths what high school districts do, and almost that many times what the graded districts receive.

Of the 1,011 rural districts one fifth receive from the state 50 per cent or more of their annual income, and more than one third of the 461 districts receive a similar share. Only between 4 per cent and 5 per cent of the graded and less than this proportion of the high school districts are given as much. Twenty-two per cent of the 1,011 districts receive less than 25 per cent from the state. Nearly 27 per cent of the graded and nearly 30 per cent of the high school districts receive less than 25 per cent. Between 75 per cent and 80 per cent of the 461 districts receive more than one half the amount they themselves contribute. Only 49 per cent of the graded schools and 55 per cent of the high schools receive as much.

TABLE G
LOCAL TAX LEVY IN MILLS

SCHOOL	MEDIAN	QUARTILES	
High.....	6.3	5.0	7.8
Graded.....	5.1	3.9	6.0
Rural (1,011).....	1.7	1.1	1.6
(461).....	1.4	.9	2.0

10% —

5 10 15 20 30 40 50 60 70 80 90 100

Rural —••••• (for 1011 districts)
 Graded - - - - -
 High —————

With cost per attendance-day less, with the days of attendance less, with the aid for every such day more, and with taxable resources almost twice that of the other districts, rural districts ought not to have high tax levies. The above table shows clearly that they do not. Both this table and Figure 11 loudly acclaim the extremely low rural school tax. The rural schools' year is less than eight ninths of the year of all the other districts; their resources are twice as great; but their taxes are one third and less than one fourth, respectively, of what graded and high school districts' taxes are. Their lowest quartile is less than one half the lowest quartile of the grade school levies and less than one third the lowest quartile of high school levies.

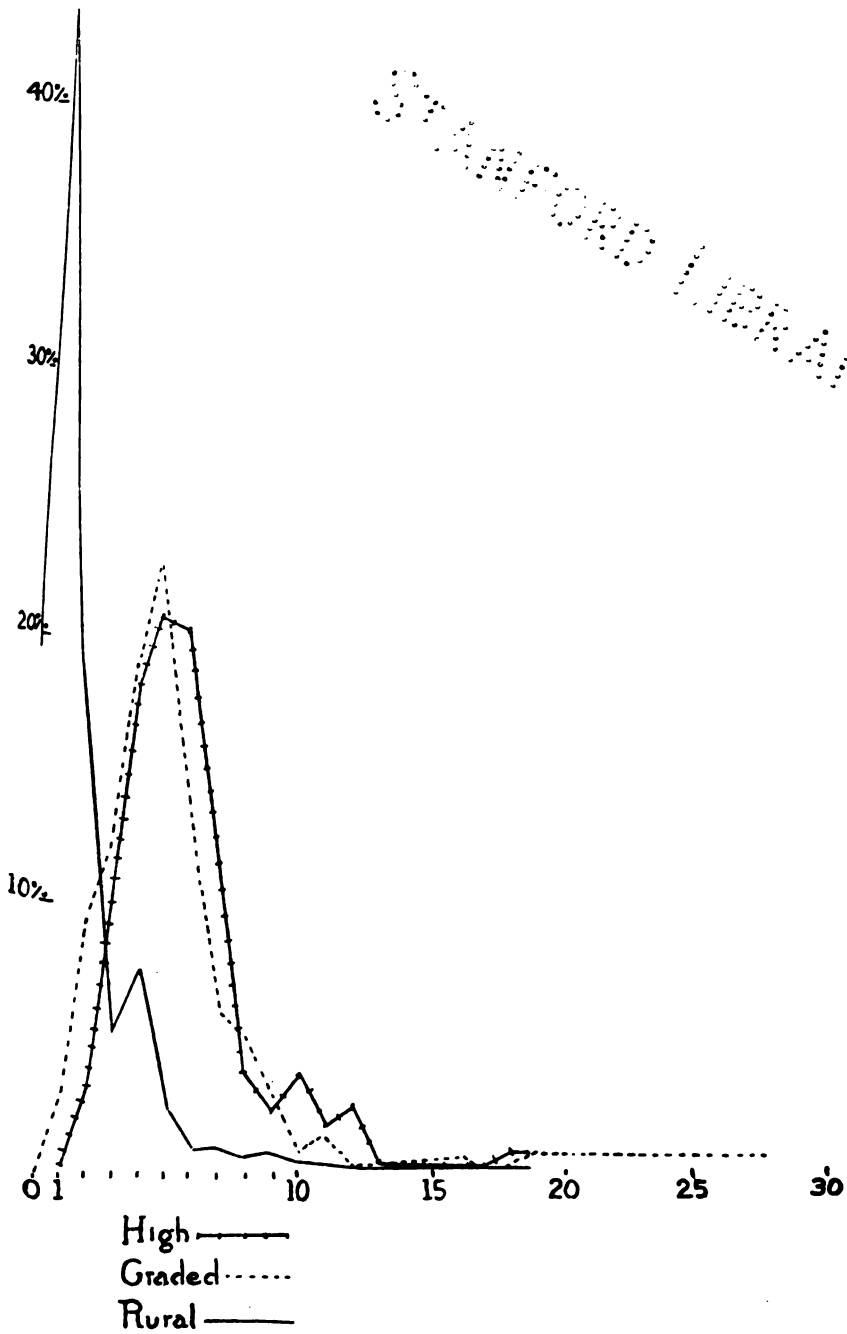


Figure 12
Local tax levy

Among all the rural districts considered, 84 per cent have a tax amounting to less than 3 mills, while among the 461 districts 89 per cent have taxes corresponding. Only six high school districts (3 per cent of all) and 12 per cent of the graded school districts have taxes as low. Ninety-seven per cent of the 1,011 districts and 99.2 per cent of the 461 districts levy less than 6 mills; 30 per cent of the graded school districts and 47 per cent of the high school districts have taxes above such a levy. Finally, 44 per cent of the 1,011 districts levy a two-mill tax, while 73.7 per cent of the 461 districts levy less. This is less than the tax of any single high school district. Nearly three fourths of the rural districts that receive special state aid levy a tax less than the lowest tax levied by any of 197 high school districts:

TABLE LVII
SUMMARY

COMPARISON OF IDENTICAL ITEMS AMONG HIGH, GRADED, AND RURAL SCHOOLS
IN TERMS OF THE MEDIANS

School	A Length of school year	B Assessed valuation per pupil	C Yearly attendance per pupil	D Cost per pupil-day of attendance	E Aid per pupil-day of attendance	F Per cent income from state aid	G Tax levy
	Months		Days	Cents	Cents		Mills
High.....	9	\$1,186	147.4	25.7	7.5	32.2	6.3
Graded.....	9	1,254	138.7	23.0	7.1	33.0	5.1
Rural.....	7.7	2,195	98.0	22.9	8.9	37.2*	1.7*
						46.02†	1.4†

* For the 1,011 districts.

† For the 461 districts.

In this list of seven common factors the pecuniary advantage is in favor of the rural districts as against the other schools in each of all the five items possible, that is in: (B) assessed valuation per pupil; (D) cost per pupil per day of attendance; (E) aid per day of attendance; (F) total per cent of income derived from state aid; and (G) tax levy in mills. The school year is the shortest and the number of days attended per pupil is the least among rural districts.

On the basis of need and effort the rural districts are getting the lion's share of state aid. Rural districts have more to do with, and still do less for, their children than either of the other two groups of districts. The children of the rural schools, in spite of the financial ability of their districts, are offered less school opportunities per year, and take a smaller proportion of what is offered, than the children of the other districts. The actual schooling which rural children take costs a little less per time unit and is paid for in greater part by the state than the schooling taken by children in the other schools. Rural districts exert themselves much less to maintain their schools, yet in spite of this fact they are reimbursed

far more by the state than other school districts. Very plainly state aid bears no relation to local need, local effort, or local ability in rural districts, at least.

From a consideration of these facts three fundamental propositions are evident:

1. The rural districts, as a group, are nearly twice as able financially to provide educational opportunities for their children, as any other group of districts.
2. In every feature of educational opportunity and advantage on which there is definite evidence, rural districts provide educational opportunities greatly inferior to those offered by other districts.
3. The rural districts receive in special aid from the state a very much larger per cent of their total income than does either of the other groups of schools.

PROPOSED SCHEME FOR DISTRIBUTION OF STATE AID

The investigation so far has led to certain definite conclusions. On the basis of these conclusions the writer submits certain principles as a practical basis to govern the distribution of state aid.

In stating these principles the writer recognizes that their application would be most efficacious under the administration and supervision of a State Board of Education possessing large executive powers and whose administrative functions should be exercised through an expert executive agent.

I. GENERAL PRINCIPLES

1. All state aid should be given only upon definite recommendation of duly authorized state officials who are the executive agents of the state board.
2. No aid should be granted to any district for any purpose before the state has fully inspected the work for which state aid is requested and has ascertained that work meriting state aid has been carried on for at least one year previous to the time that aid is granted.
3. The state board should maintain a bureau to ascertain and to measure the results of the policy of state aid to public education. This bureau should seek constantly to discover undesirable or questionable results arising from the distribution of state aid and should suggest and devise improved methods for the distribution of such aid.
4. The state board should have power:
 - a. To set standards and stipulate conditions prerequisite to state aid, in all its forms.
 - b. To appoint the necessary number of executive agents to insure the proper administration of the powers and duties of the board, and to direct the work of such officials.
 - c. To direct the work of the Bureau of Investigation.
 - d. To make individual grants of aid in all forms to districts, and for just cause to withhold the grant of any such aid.

II. PRINCIPLES TO GOVERN STATE AID TO ELEMENTARY AND SECONDARY SCHOOLS

1. There should be a flat sum granted to every high and graded school, meeting the stipulated requirements of the state board. The basis of such aid should be the number of teachers actually employed, except that the aid for schools employing only one teacher should be upon the basis of the number of schools maintained.

2. Every district maintaining high or graded schools should receive no additional state aid of any sort until it expends in a given year an amount per attendance unit in both its high and graded departments, equal to the median cost of such units among all schools of the same classification in the state; provided, that if, in order to raise such amount, a district should be obliged to levy a tax larger than the median tax among all schools of the same classification in the state, the state should refund to such district an amount equal to one half the income from the tax levy exceeding the median tax levy; and provided further, that should the tax levy necessary to raise the median attendance support be greater than that levied by three fourths of the districts in the same classification in all the state, then the state should refund to such district the whole of the amount raised by the second excess levy.

3. The state should give aid on the basis of every properly qualified teacher having in charge not over fifteen children who are physically defective or who are retarded three or more years. It would be necessary for the state to define what constitutes a physically defective or a retarded pupil.

4. Additional aid for consolidation should be granted on the basis of the unit cost of transportation of pupils actually conveyed. A consolidated school should be able to benefit also by any of the other aids provided by fulfilling the conditions prerequisite to the same.

5. There should be no aid granted to any one-room school whose total annual attendance falls below two thousand days—except in the case of districts that can prove to the satisfaction of the State High School Board that in addition to having met all other prerequisites for state aid, consolidation is impossible, and the school population of the district makes it impossible for such districts' annual attendance to total two thousand days when the school is operated at least eight months.

6. The State Constitution should be so amended as to allow the distribution of the permanent school fund income on the basis of attendance. If such amendment can not be readily secured, during the time previous to its passage the number of days of attendance requisite for participation in this aid should be raised to one hundred.

CHAPTER VII

SPECIAL AID TO INDUSTRIAL DEPARTMENTS

Some of the most puzzling questions connected with state aid to public schools arise in connection with the maintenance of special industrial departments.¹ When the Commission came to consider this problem they were confronted by a condition similar to that which they had found with respect to general aid to the three groups of schools. That is to say, though for some years generous aid had been granted to these several industrial departments,² it had not been granted on the basis of any specifically known or accurately determined amount of need. The two laws, passed, were adapted to the solution of a real problem, but the limits of legitimate local demands were not known. No one knew the actual needs of the departments for which the laws were attempting to provide. There was no reflection upon anyone. Facts necessary for computing such needs were not at hand. The plan contemplated generous state aid for the work as it was planned, and by careful supervision attempted to check the expenditures and thus obviate reckless and wasteful distribution. The few years' operation of these laws and maintenance of the special departments thus aided ought to help in finding out what expenditures would legitimately be. To find out how the money expended was used, to ascertain as closely as possible the actual and relative costs of the several departments, should help in determining whether the aid provided had been giving expected or adequate returns.

The nature of the two acts providing special aid for industrial education should be recalled. To state them briefly, one allowed \$2,500 annually to high or graded schools maintaining, according to prescribed conditions, the three departments of agriculture, shop work, and home economics. The other granted \$1,800 annually to high or graded schools maintaining, according to prescribed conditions, a department of agriculture and a department of shop work *or* of home economics.³ Important questions arising in this connection are:

1. Are \$2,500 for three departments and \$1,800 for two, fair distributions?
2. How much does a department of agriculture really cost?
3. How much does a department of shop work or one of home economics cost?

¹ Teacher Training Departments in high schools are not included in this discussion, except where specially mentioned. The reason is that these departments are for the benefit of the state and not of communities merely. The state recognizes this in attempting to pay *all* the special maintenance costs of these departments.

² See Chapter 2.

³ See Chapter 2.

4. How do salaries of instructors compare, both in the same department and between departments?

To be able to compare costs a common unit of measuring that cost must be used. The unit here chosen was that of the pupil-recitation of instruction, the number of pupils being determined according to the total enrollment in the class. The cost itself is for maintenance and includes: first, salaries of instructors; and second, the expense of current supplies. As has already been stated, the data covering these items were obtained, through the kindness of Mr. George B. Aiton, directly from the reports of the schools in which these departments were maintained the preceding year and which received special aid in conformity with the two legislative acts previously described.⁴ The data in these reports constituted the basis for the distributions of the state aid to these departments by the State High School Board. For the purposes of this study, therefore, these data are as authentic as any that could be used.

TABLE LVIII
PLAN OF ORIGINAL DATA SHEET FOR COST OF HIGH SCHOOL INSTRUCTION

DEPARTMENTS AND COURSES	CLASSES						EXPENSES			
	Grade	Weeks	Hours per day	Times per week	Enrollment	Student hours per week	Salaries	Other direct	Total	Average cost per student hour
I. Agriculture	I	II	III	IV	V	VI	VII	VIII	IX	X
a. Crops.....										
b. Agronomy.....										
II. Home Economics										
a. Domestic Science, etc.,										
III. Shop Work										
a. —.....										
b. —.....										

The accompanying sheet shows what information was used and how it was tabulated. The first column at the left is for the listing of departments and the courses offered in them. Column I shows the year in which these several courses were offered. Column II tells the number of weeks which the respective courses were taught; column III, the number of recitation periods per day devoted to the subject; column IV, the number of days per week which such recitations were held; column V, the enrollment in each course; column VI, is the product of the figures in columns II, III, IV, and V, and may be called the number of pupil-recitation periods each

⁴ Twenty-eight high schools received \$2,500 each, and 68, \$1,000 each. See *Twentieth Annual Report of Inspector of State High Schools*, 52, 53.

course covered. In column VII is given the salaries of the instructors. Column VIII states the other direct expenses of maintenance for the year. Column IX is in each case the sum of the amounts in columns VII and VIII.

The figures in column X are obtained by dividing the amount in column IV by the sum of the figures for each separate department in column VI. Where the instruction covered two recitation periods daily, the two periods were counted as two. The problem here concerns the time unit cost of instruction of a given subject. If the conditions in two schools were such that a given subject occupied two periods of recitation time in one school and in the second school it occupied only one period, the first school is charged with twice the time cost for that subject; where the recitation period varied five minutes no account is taken of such variation, as between forty and forty-five minutes, otherwise it is reduced to a forty-five minute basis.

SALARIES

Inasmuch as each school receiving aid under either of these acts was required to report upon the salary of its instructors in each department, the figures necessary seemed readily available. In some cases, however, the instructors in special departments gave a part of their time to teaching regular, that is, academic, high school work. On the other hand, some regular high school instructors devoted part of their time to teaching industrial subjects. The latter division of time was technically permissible by principals of graded schools and by superintendents of high schools receiving the \$1,800 aid.⁵ In either such exceptions, the person's salary was prorated. That part of it corresponding to the proportion of time devoted to teaching a given industrial subject was charged against the salary expense of the industrial department in which that subject was studied. In order to make the information covering such data accurate a lengthy correspondence was carried on with the superintendents and principals where these industrial departments had been maintained. No school was finally included in the list from which definite information was not received.

The median annual salary of fifty-eight teachers in shop work is \$863, fifty per cent receiving between \$759 and \$1,074. Fifty-three of the fifty-eight receive less than \$1,100 each.

The median annual salary of seventy-two teachers in home economics is \$700, fifty per cent receiving between \$624 and \$774. Two thirds of all receive between \$600 and \$800.

The median annual salary of fifty-nine teachers in agriculture is \$1,206,

⁵ See Chapter 2, note 46.

TABLE LIX
SALARIES OF SPECIAL INSTRUCTORS

SALARY	NUMBER OF INSTRUCTORS		
	Shop Work	Home Economics	Agriculture
\$ 400 to \$ 499.....	0	1	0
500 " 599.....	3	11	0
600 " 699.....	4	24	0
700 " 799.....	12	24	0
800 " 899.....	9	5	0
900 " 999.....	11	2	4
1,000 " 1,099.....	6	1	7
1,100 " 1,199.....	3	1	4
1,200 " 1,299.....	5	0	23
1,300 " 1,399.....	1	1	7
1,400 " 1,499.....	1	0	4
1,500 " 1,599.....	1	1	6
1,600 " 1,699.....	0	0	3
1,700 " 1,799.....	0	1	1
1,800 " 1,999.....	1	0	0
2,000 " 2,199.....	1	0	0
	58	72	59

fifty per cent receive between \$1,197 and \$1,292; twenty-three, or nearly forty per cent, of them receive between \$1,100 and \$1,200 each.

Up to \$900 over forty-eight per cent of the shop salaries are included and over ninety per cent of the home economics salaries, but not one in agriculture. Less than eighteen per cent of the shop salaries and less than five per cent of the home economics salaries are equal to or above the median salary in agriculture.

After the salaries of instructors in industrial work had been ascertained it seemed desirable to compare them with salaries of regular high school instructors. It would have been highly desirable could comparisons have been made directly between salaries by subjects in industrial departments and in specific academic departments. Such detailed comparisons could not be made on the basis of the facts known. The data available covering salaries of instructors of regular high school subjects could not be divided even by departments as could the data for the cost of industrial departments. On account of the size of most high schools in the state one instructor usually teaches several subjects, the classes of one department often being divided among several people. It was impossible to make any accurate division of salaries on the basis of time devoted to the teaching of given subjects in the various high schools.

The median annual salary of 789 teachers⁶ in regular high schools was \$725, excluding superintendents, but including principals, is \$725. The median

⁶ These are chosen from both classes of specially aided schools and from schools in neither of the two classes.

one half of these individuals receive between \$628 and \$830. Seven hundred and sixty-five of the 789, or nearly 99 per cent, receive less than \$1,200, the median salary of the agriculture teacher.

How salaries of special instructors compare with those in regular high school work in departments and work which receive no special departmental aid, is answered by reducing the distributions of Tables LIX and LX to a per cent basis and then comparing them, as shown in Table LXI.

TABLE LX
SALARIES OF REGULAR HIGH SCHOOL TEACHERS

NUMBER OF TEACHERS	PER CENT OF ALL TEACHERS	HIGH SCHOOL TEACHERS' SALARIES
1	.1	\$ 400 to \$ 499
110	13.9	500 " 599
251	31.8	600 " 699
194	24.5	700 " 799
117	14.8	800 " 899
56	7.1	900 " 999
19	2.4	1,000 " 1,099
17	2.1	1,100 " 1,199
13	1.6	1,200 " 1,299
9	1.1	1,300 " 1,399
0	.0	1,400 " 1,499
0	.0	1,500 " 1,599
1	.1	1,600 " 1,699
0	.0	1,700 " 1,799
1	.1	1,800 " 1,899

TABLE LXI
SALARIES OF ALL GROUPS OF HIGH SCHOOL INSTRUCTORS

SALARY	SHOP 58 teachers	HOME ECONOMICS 72 teachers	AGRICULTURE 59 teachers	HIGH SCHOOL 789 teachers
\$ 400 to \$ 499	.0	1.4	.0	.1
500 " 599	5.1	15.0	.0	13.9
600 " 699	6.8	33.3	.0	31.8
700 " 799	20.6	33.3	.0	24.5
800 " 899	15.5	7.0	.0	14.8
900 " 999	18.9	2.8	6.7	7.1
1,000 " 1,099	10.3	1.4	11.8	2.4
1,100 " 1,199	5.1	1.4	6.7	2.1
1,200 " 1,299	8.6	.0	38.9	1.6
1,300 " 1,399	1.7	1.4	11.8	1.1
1,400 " 1,499	1.7	.0	6.7	.0
1,500 " 1,599	1.7	1.4	10.1	.0
1,600 " 1,699	.0	.0	5.1	.1
1,700 " 1,799	.0	1.4	1.7	.0
1,800 " 1,999	1.7	.0	.0	.1
2,000 " 2,199	1.7	.0	.0	.0

Comparisons among the salaries in all these departments can best be made by means of a summarizing table, and by curves plotted on the same base on a percentage distribution.

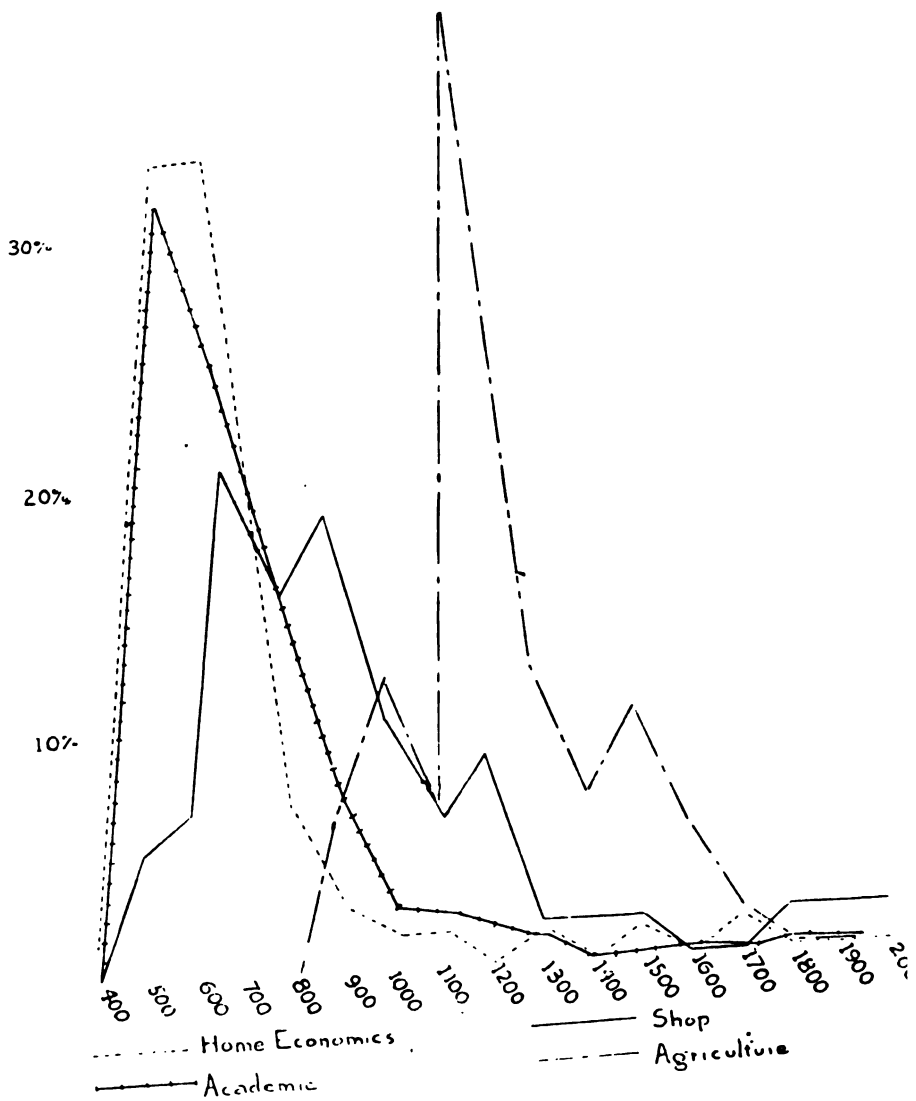


Figure 13
Salaries of high school instructors by departments

TABLE LXII
HIGH SCHOOL SALARY DISTRIBUTIONS

DEPARTMENT	MEDIAN	MIDDLE 50%
Home Economics....	\$ 700	\$ 624 to \$ 774
Regular High School.	725	628 " 830
Shop.....	863	759 " 1,074
Agriculture.....	1,206	1,197 " 1,292

The salaries of the instructors in home economics and in regular high school work follow much the same form of distribution. The median and mode are nearly the same, as are also the lower quartiles.

The upper quartiles are a little farther apart. In every single item of comparison the number for home economics instructors is the smaller one.

Shop and agriculture salaries have two marked characteristics: (1) the curves of distribution are more irregular, and (2) the salaries are markedly higher than for the other two groups. There are two probable reasons for the first fact,—(1) the wide range in the character of the work done and hence in the type of instructors employed,⁷ and (2) the fact that because of the newness of this kind of work in these schools the work is not well standardized. The higher salaries are probably due to (1) newness of the work and hence scarcity of instructors, especially in agriculture, (2) technical character of training needed for preparation for such work, and (3) the fact that most of these instructors are men.

TIME UNIT COST

In determining time unit cost both salaries and expenses for current supplies were included in computing the cost, as has been stated before. The time unit taken was the pupil recitation. To determine this unit cost in any department, as in shop work, the method was as follows: the sum of the salaries and cost of supplies for that department for the year was the year's cost of maintenance of that department. The product of the figures representing any course for that department, pupils enrolled, weeks the course ran, and recitations per week, constitute the pupil-recitation periods in that course. The sum of the pupil-recitation periods of all courses in the department is the total number of pupil-recitation periods to be charged to that department. The total cost of maintenance divided by the total number of pupil-recitation periods gives us as a product the cost per time unit.

The time unit cost of each of the special departments is shown herewith.

⁷ See *Twentieth Annual Report, Inspector of State High Schools*, 57.

TABLE LXIII
TIME-UNIT COST OF DEPARTMENTS IN SEVENTY-ONE HIGH SCHOOLS MAINTAINING
FOUR DEPARTMENTS OF WORK

COST	HOME ECONOMICS	AGRICULTURE	SHOP WORK	HIGH SCHOOL
0 to .9.....	1			
2 " 2.9.....	12		1	
3 " 3.9.....	14		7	5
4 " 4.9.....	12	1	4	25
5 " 5.9.....	8	5	5	13
6 " 6.9.....	9	2	10	16
7 " 7.9.....	5	3	7	2
8 " 8.9.....	2	2	6	6
9 " 9.9.....	2	3	5	2
10 " 10.9.....	2	2	5	2
11 " 11.9.....	1	4	7	
12 " 12.9.....	0	5	2	
13 " 13.9.....	0	6	2	
14 " 14.9.....	0	5	5	
15 " 15.9.....	2	2	1	
16 " 16.9.....	0	1	1	
17 " 17.9.....	0	3	1	
18 " 18.9.....	1	6	0	
19 " 19.9.....		3	1	
20 " 20.9.....		2		
21 " 21.9.....		1		
22 " 22.9.....		1		
23 " 23.9.....		0		
24 " 24.9.....		1		
25 " 25.9.....		1		
26 " 26.9.....		1		
27 " 27.9.....		1		
34 " 34.9.....		1		
37 " 37.9.....		1		
38 " 38.9.....		1		
39 " 39.9.....		0	1	
40 " 40.9.....		1		
43 " 43.9.....		1		
44 " 44.9.....		1		
47 " 47.9.....		1		
48 " 48.9.....		1		
49 " 49.9.....		1		
50 " 50.9.....		1		

MEDIANS: Home Economics..... 4.2 cents
 Agriculture.....14.0 "
 Shop Work..... 7.8 "
 High School..... 4.9 "

This table shows several facts of interest. Possibly some of them are brought out more clearly by Figure 14. In the first place the cost of instruction in regular high school work is quite well standardized. And the departments here included under "high school" can not include any home economics, shop work, or agriculture. If there were any schools here that did not receive special aid that condition might be true. But in these seventy-one schools the work of all departments that might receive special aid has been transferred to its respective department. The figure

1/2

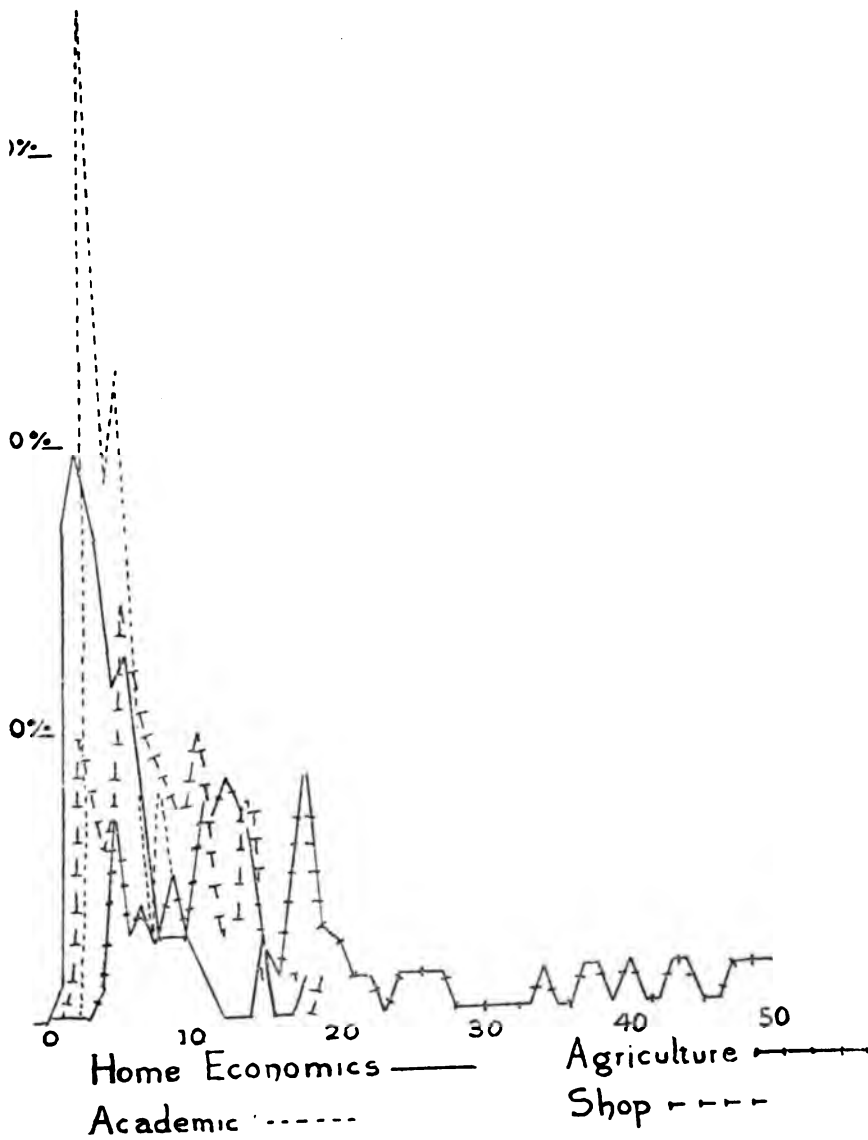


Figure 14
Unit cost of high school instruction by departments

for the cost of academic high school instruction in this case then applies only to academic instruction. The modal cost of this instruction is 5 cents, the median cost is 4.9 cents.

The cost of instruction is not so nearly standardized in any other department. It is least standardized in agriculture. Home economics is more nearly standardized than shop instruction.

The second interesting feature is in connection with departmental comparisons. Because of what has been found out concerning salaries in these respective departments (Table LXI), one would expect the unit cost of agriculture to be the highest, as it is.⁸ One would also expect the cost of shop instruction to be next, as it is. But one is rather surprised to find the cost of home economics below regular high school instruction.⁹ There are probably two facts that help explain this situation. The first is, as we have seen, that the salaries of the teachers of home economics as a group are below that of the high school instructors as a group, in any way they are compared. The second reason is that the cost of supplies for the home economics department of a small high school in many cases does not exceed the cost of supplies for a science department in the same school. The low figures for "other expenses" in this department is a noticeable feature of the reports as returned from the schools.

In the third place, the extremely high cost of agricultural instruction in many of the schools not only indicates a pronounced lack of standardization of the type of work aided in this department, but it also raises the serious question as to whether some schools are not either uneconomical in their expenditures for agriculture, or whether they have not stressed this department to a degree that reacts upon the possible growth of other departments.

In the fourth place, these facts suggest that one could work out from unit costs a reasonable estimate of what a course in agriculture should cost a school if he knew the amount of time a pupil should be expected to spend in the recitations of such course.¹⁰ The same would hold true with respect to an estimate for any one of these departments. Such an estimate could not be rigidly set as a standard. Variations would need to be allowed. But it would at least be true that with such an estimate, carefully worked out, the state could determine, within reasonable limits, when any school was making excessive or unwarranted expenditures in a

⁸ One reason for the greater cost of agricultural instruction is the fact that the high-school teacher in this department is required to do extension work. He teaches the first half of the day and goes into the country afternoons and Saturdays giving expert advice, organizing clubs, and performing gratis for the farmers of that community such work as will assist them in improvement in applied agriculture. Some may say that the proportion of an instructor's time devoted to such extension work should not be charged to the school district. Perhaps it should not be, but it is, and because of present school practice must be included here.

⁹ It will be shown later in the chapter that a slightly higher figure more nearly represents the cost of regular high school instruction for the state at large.

¹⁰ See *Annual Report of the School Committee*, Newton, Mass., 1911, 142, *et seq.*

department. The estimate would also furnish a basis of operation for determining how much a district should spend in any one of these departments before it should be entitled to any state aid for such work. Some such plan, or a modified form of it, is the state's greatest need at present in connection with the distribution of special aid to these departments.

The fact that high school instruction-cost appears so much higher in one group of high schools than in another led to a search for some explanation. The rise in this cost caused by including the schools without industrial departments, at once raised the question whether there is any connection between cost of regular instruction and the presence of departments receiving industrial aid, and if there is any connection, just how it operates and why.

To attempt to answer these questions, as many high schools as possible receiving special industrial aid were put into one group, and about the same number that did not receive such aid were put into another group. The unit cost of instruction in regular high school work was then computed separately for each group.

The facts of this cost in the two groups are shown in Table LXIV.

TABLE LXIV
UNIT COST OF ACADEMIC INSTRUCTION IN INDUSTRIAL AND
NON-INDUSTRIAL HIGH SCHOOLS

COST PER PUPIL-RECITATION	NUMBER OF SCHOOLS	
	Industrial	Non-industrial
Cents		
3 to 3.9.....	11	4
4 " 4.9.....	22	9
5 " 5.9.....	23	23
6 " 6.9.....	9	19
7 " 7.9.....	5	11
8 " 8.9.....	5	5
9 " 9.9.....	5	6
10 " 10.9.....		4
11 " 11.9.....		1
12 " 12.9.....		
13 " 13.9.....	1	
15 " 15.9.....		1
16 " 16.9.....		2
19 " 19.9.....		1
26 " 26.9.....		1
Total number of schools..	80	87
Median cost.....	5.2c	6.6c

Finally, there was available a total of 164 high schools,¹¹ some having, and some not having, departments receiving industrial aid. The cost of regular high school instruction was computed for this group of schools. The results are shown in Table LXV.

¹¹ This group consists of the former seventy-one schools with ninety-three others added.

TABLE LXV
UNIT COST OF ACADEMIC TEACHING IN ONE HUNDRED
AND SIXTY-FOUR HIGH SCHOOLS

Cost		NUMBER OF SCHOOLS
Cents		
2 to	2.9.....	1
3 "	3.9.....	6
4 "	4.9.....	41
5 "	5.9.....	38
6 "	6.9.....	41
7 "	7.9.....	11
8 "	8.9.....	11
9 "	9.9.....	8
10 "	10.9.....	3
13 "	13.9.....	1
15 "	15.9.....	1
16 "	16.9.....	1
24 "	24.9.....	1
Median 5.8 cents.		

For Minnesota we have, then, the following figures covering the cost of regular high school instruction in schools taken by different groupings.

TABLE LXVI
UNIT COST OF ACADEMIC INSTRUCTION IN MINNESOTA

NUMBER OF SCHOOLS IN GROUP	TYPE OF SCHOOLS INCLUDED		
	Industrial	Non-Industrial	Both
71		4.9c	
80	5.2c		
87		6.6c	
164			5.8c

For the state as a whole the cost of regular high school work for the group of 164 schools seems to be the most representative figure. It is practically the median of the three others. By including a fair representation of all types of high schools in the state, it is clearly representative of conditions for the entire state.

The question at once arises as to which group should be selected for purposes of comparing high school costs. Is not 5.8 cents, that which more nearly represents the entire state, the correct one on which to form such comparisons rather than 4.9 cents, which is the high school cost in only those seventy-one schools? The question is a very fair one, but the answer is quite evident. Those seventy-one schools constitute the only group whose unit costs can in justice be compared with other studies. In every Minnesota group other than this one, some schools in the "non-industrial" group are supporting some industrial work. "Non-industrial"

means merely that none are receiving special industrial aid for such work. "High school" unit cost in "non-industrial" groups, other than the seventy-one, includes, then, the cost of some industrial work. In the seventy-one schools "high school" cost covers *only* academic instruction. All industrial work is placed in one of the three industrial departments, about one third of which receive special aid for each of the three industrial departments. This is the condition most nearly comparable to that in other schools compared where the cost of the work of each department includes none of the cost of work from any other department.

When we want figures that reflect more nearly conditions for the state as a whole the unit cost of "high school" work among the 164 is the one to be used. Better still and more nearly the truth would be two figures, one for "industrial" and the other for "non-industrial" schools.

Our problem here, however, was to find out, if possible, some of the reasons for the existence of difference in cost in presumably the same general department of work.

One reason has already been partly stated. In many high schools that receive special aid for only two departments, some work is done representing the third department. In computing costs as we have been obliged to do, the cost for this third division of work has been included under "high school" or "academic" work.

Again, in practically all high schools, including those receiving no special industrial aid, some industrial work is done. In these cases the cost of all such industrial work is computed with the cost of "high school" work.

But errors of method do not account for all the variation. Work in home economics costs less than regular high school work. Shop work in all probability is usually no more than bench or perhaps cabinet work, except where it receives special recognition and aid. Agriculture, the costliest department, is seldom if ever maintained in any school as a department until it receives special aid. The difference in the cost of academic work does not seem to be covered by the possible causes so far described.

At last after diligent search another cause was found. Forty-six instructors in special departments,—not including superintendents,—for which the state pays special aid, gave from one fourteenth to three sevenths of their time, respectively, to teaching regular high school subjects not specially belonging to their departments. The distribution of this part of their time is shown in Table LXVII.

At the time that the work on unit cost of instruction was completed results were compared with those computed by Frank E. Spaulding for Newton, Mass.¹² His findings are comparable with those for Minnesota

¹² See *Annual Reports of the School Committee, Newton, Mass., 1911; ibid., 1912; ibid., 1913.*

since his method is similar to the one employed here, except that he includes only salaries and not any other expenses. "The common unit is a single 'recitation' for a single pupil;—all recitations are practically the same length, about forty-five minutes."¹³ His findings are represented in Tables LXVIII and LXIX.

TABLE LXVII
TIME DEVOTED BY INDUSTRIAL INSTRUCTORS TO
TEACHING ACADEMIC HIGH SCHOOL SUBJECTS

FRACTION OF SCHOOL DAY	NUMBER OF INSTRUCTORS
1/14	6
1/7	17
1/5	2
8/35	3
1/4	1
2/7	8
7/22	1
3/7	2
12/35	2
1/2	1
13/35	1
3/7	2

TABLE LXVIII
PUPIL RECITATION COSTS¹⁴ IN NEWTON, MASSACHUSETTS HIGH SCHOOLS

SCHOOL	HOUSEHOLD ARTS					SHOP WORK				
	1911	1912	1913	1914	Average	1911	1912	1913	1914	Average
Technical.....	6.2	8.8	4.2	4.0	5.3	8.7 ¹⁵	7.9	4.1	6.0	6.7
Vocational.....	.....	.....	6.4	5.7	6.1	.....	.....	9.9 ¹⁵	6.6	8.3
Newton High.....	.....	.....	.....	.....	5.7	.....	.....	.....	.....	7.5

TABLE LXIX
ACADEMIC

	1911	1912	1913	1914	Average
Technical.....	5.8	5.8	5.7	5.4	5.7
Vocational.....	.....	.....	7.3	6.2	6.3
Newton High.....	5.6	5.7	5.7	5.7	5.7

¹³ *Annual Reports of the School Committee*, Newton, Mass., 1911 p. 121.

¹⁴ For figures representing cost of 1911, see report of that year, table 14, opposite p. 1212. For those representing the cost of all the other years, see *Report* for 1913, tables 10, 11, and 12, opposite p. 83. All the averages have been computed for this table.

¹⁵ Listed as "Mechanical Work."

¹⁶ Average of separate costs of (1) cabinet making, (2) pattern making, (3) machine shop.

In 1915 the results of two other studies on unit cost of high school instruction were published. One, by Walter S. Monroe,¹⁷ is for the state of Kansas, and includes 203 schools. The other, by Franklin Bobbitt,¹⁸ is a study of twenty-five high schools scattered over several states.

The methods and units used by each of these investigators allow comparisons between costs of high school instruction as computed for each of these separate groups and costs computed for Minnesota schools.

In using these studies for comparative purposes certain additional computations were made. The median cost of all academic subjects as computed for Kansas schools. This was done by finding the median of the array of the separate costs as given by schools for English, mathematics, history, science, modern languages, Latin, and commercial subjects.¹⁹ Medians for the cost of instruction in agriculture, household arts, and manual training were computed for the array of costs in each subject just as these costs are given in the report.

To be able to use the study of the twenty-five schools comparatively "housand student hours" was reduced to a forty-five minute hour cost. Medians were computed, where not given, in identically the same way for the Kansas schools.

Inasmuch as there are some known differences among the methods of these several investigators, and perhaps more unknown differences, in presenting the table of comparisons there is presented not only the unit cost as found, but also for each study the ratio of the unit cost of each special department to that of the academic department. These comparisons are shown in Table LXX.

TABLE LXX
COMPARISONS OF UNIT COST OF HIGH SCHOOL INSTRUCTION

STUDY	COST IN CENTS PER PUPIL HOUR				RATIO TO ACADEMIC COST		
	Agriculture	Shop	Household Arts	Academic	Agriculture	Shop	Household Arts
bobbitt.....	3.6	7.0	4.6	4.7	.77	1.49	.77
kansas.....	5.1	5.7	4.7	4.7	1.09	1.22	1.00
minnesota.....	14.0	7.8	4.2	4.9	2.86	1.59	.86
newton.....	.....	7.5	5.7	5.7	.....	1.31	1.00

In the above table the following facts are noteworthy:

1. With the exception of one city, Newton, the ranking of the studies in order of academic costs corresponds roughly to their ranking in shop costs.

¹⁷ Monroe, *The Cost of Instruction in Kansas High Schools*, Bureau of Education Studies, Number 2.

¹⁸ Kansas State Normal School, Emporia, 1915, *Measurements and Standards*.

¹⁹ Bobbitt, *High School Costs*, *School Review* 23:505.

²⁰ *The Cost of Instruction in Kansas High Schools*, 32, 33, 34, 35.

2. With the exception of Newton, the ranking in academic costs corresponds roughly with the ranking in household arts costs.

3. Unit cost for household arts work never exceeds unit cost for academic cost.

4. Unit cost in shop work always exceeds academic unit cost by at least one fifth.

5. Costs in agriculture show greatest variability, both in unit costs and in ratio to academic costs. Even though one estimates that half of the school day of each agriculture instructor in Minnesota is devoted to extension work, the unit cost of the instruction for this work in the state is still in excess of both unit and ratio cost for corresponding work in the other groups. This estimated division of time given to extension work is too large.

6. Except in agricultural instruction, Minnesota is in the "safety zone" of unit costs for high school work.

7. In agriculture the cost of instruction is questionably high. Rather than allow this condition to continue indefinitely and unchallenged the state should make an exhaustive investigation to determine why these costs are as high as they are and whether they are justifiable.

CORRELATIONS

The correlations between the unit cost of regular high school work and that of the special departments were computed by the Pearson method for the group of seventy-one schools. The results are shown in Table LXXI.

TABLE LXXI
CORRELATION OF UNIT COST IN HIGH SCHOOL

ITEM A	ITEM B	r ²⁰
Regular high school work	Agriculture	+.336
Regular high school work	Home Economics	+.358
Regular high school work	Shop Work	+.085

Expenses of instruction in agriculture and in home economics tend to rise and fall, to increase and decrease with expense of instruction in regular high school work in this group of schools. This tendency is most marked in the case of home economics. We are not surprised at this, knowing the rather close comparison of salaries among home economics teachers and regular high school teachers. The high correlation figure in the case of agriculture comes somewhat as a surprise. It tends to bear out the assertion previously made, however, that the industrial high schools as a group are not only the best organized, but the best supported as public educational institutions.

²⁰ Each correlation coefficient is unattenuated.

After the two preceding rather high correlation figures the low one in shop work is hard to explain. There is without doubt, though, a very great variability in the kind of work here included. The cost of this work varies greatly with the kind of work given. It varies not only in the nature and shop costs of the work given but also in the salaries paid. The table of salaries shows the variability of the salaries of teachers in this department to be the greatest for any group of teachers studied.

In attempting to ascertain the results of the support of these industrial departments a question naturally arises as to the effect the departments have had upon the personnel of the student body. Are more people drawn to the high school? Are more people drawn from the country to attend these departments than attended the high schools before?

Tables LXXII, LXXIII, LXXIV, LXXV, and LXXVI were compiled in the attempt to get some light on these questions. Teacher-training departments were taken into account. When they were established, "it was hoped that third grade teachers, young people who were rather mature for eight grades, would enter a special school of this sort—."²¹ If the results had been as expected the high schools with such departments would have had an increase in enrollment both in total and from outside, which should not be confused with outside enrollment due to industrial departments.

TABLE LXXII
TEACHER TRAINING DEPARTMENTS

YEAR	NUMBER OF DEPARTMENTS	TOTAL ENROLLMENT	PER CENT	TOTAL HIGH SCHOOL ENROLLMENT	PER CENT OF 1905-06
1905-06 (13)	13 (38)	229 (38)	1.0	22,106 (15)	
1906-07 (14)	10 (27-8)	182 (28)	0.8	23,687 (13)	107.1
1907-08 (15)	10 (36)	253 (36)	1.0	24,530 (16)	110.9
1908-09 (16)	7 (39)	173 (39)	0.7	26,583 (18)	120.2
1909-10 (17)	28 (35)	489 (35)	1.7	28,562 (17)	129.2
1910-11 (18)	56 (50)	740 (50)	2.5	29,971 (27)	135.5
1911-12 (19)	81 (49)	1,018 (49)	3.1	33,295 (29)	150.6
1912-13 (20)	80 (61)	974 (61)	2.8	34,854 (36)	157.9
1913-14 (21)	106 (43)	1,256 (43)	3.4	36,703 (31)	166.0
1914-15 (22)	119 (5)	— *		39,520 (28)	178.7

* No data given in the report.

NOTE: The figures in parentheses after the years are the respective annual reports of the state inspector of high schools from which the data have been taken. The figures in parentheses other than these are the pages in these reports from which the respective data have been secured.

Results did not meet hopes. The state inspector two years later reported the enrollment in these training departments "confined almost entirely to high school pupils."²² The establishment of the departments resulted only in opening a possible new field of work for pupils already attending. Similar results seem to have followed the spread of this work

²¹ *Thirteenth Annual Report of State High School Inspector*, 37, 38.

²² *Fifteenth Annual Report*, 36.

in more recent years. Computations for the department are included, nevertheless, in order that no data may be lacking.

Tables LXXII, LXXIII, and LXXIV aim to give an idea of the relative growth of departments operating under the teacher-training aid, \$2,500 industrial aid, and \$1,800² industrial aid, respectively. Enrollment in agriculture only is taken for the industrial departments. There is no enrollment given for the entire department. One could add the agriculture and the home economics enrollment, or the shop and home economics. But the relative growths in agriculture are the most typical and fairest to take since agriculture was the only one of the three subjects that was *required* in the second group of industrial schools.

TABLE LXXIII
SCHOOLS RECEIVING \$2,500 INDUSTRIAL AID

YEAR	NUMBER OF DEPARTMENTS	AGRICULTURE NINE MONTHS	ENROLLMENT SHORT COURSE	PER CENT OF TOTAL HIGH SCHOOL ENROLLMENT*
1905-06.....	None			
1906-07.....	"			
1907-08.....	"			
1908-09.....	"			
1909-10.....	9 (36)	245 (38)	187 (38)	0.9
1910-11.....	9 (41)	266 (41)	256 (41)	0.9
1911-12.....	28 (33)	937 (37)	532 (37)	2.8
1912-13.....	28 (51)	1,118 (55)	544 (55)	3.2
1913-14.....	37 (49)	1,678 (48)	489 (48)	4.5
1914-15.....	38 (56)	1,760 (60)	426 (60)	4.5

* Computed for those enrolled in the nine months' course.

NOTE: See note to Table A.

TABLE LXXIV
SCHOOLS RECEIVING \$1,800 INDUSTRIAL AID

YEAR	NUMBER OF DEPARTMENTS	AGRICULTURE NINE MONTHS	ENROLLMENT SHORT COURSE	PER CENT OF TOTAL HIGH SCHOOL ENROLLMENT
1911-12.....	50 (35)	1,538 (37)	584 (37)	4.6
1912-13.....	68 (53)	2,125 (55)	656 (55)	6.1
1913-14.....	82 (46-47)	2,491 (29)	689 (49)	6.8
1914-15.....	91 (57-58)	2,767 (61)	595 (61)	7.0

Table LXXV shows the per cent of outside enrollment for the last eleven years in the high schools receiving special industrial aid in 1914-15. The fact that the number of schools is not the same every year is accounted for by the fact that certain of these schools have been added to the state high school list each year. The per cent of outside enrollment in such schools when they were on the list of graded schools would have been computed had the graded school inspector's report given the necessary

² At first \$1,000. See Chapter 2.

data. All the computations of this table are made on the enrollment figures in the reports of the high school inspector as referred to in Table LXXII.

TABLE LXXV
PER CENT OF OUTSIDE ENROLLMENT IN INDUSTRIAL HIGH SCHOOLS
FOR THE LAST ELEVEN YEARS

PER CENT	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15
0-4.9	7	8	9	6	5	3	3	0	3	0	7
5-9.9	9	14	8	11	9	8	8	7	7	6	6
10-14.9	15	18	15	15	10	13	13	9	9	5	9
15-19.9	14	15	11	17	21	18	10	15	16	15	9
20-24.9	12	10	18	12	19	22	19	23	18	16	23
25-29.9	13	6	14	12	16	12	16	15	28	22	17
30-34.9	13	17	16	12	11	16	16	22	15	18	25
35-39.9	6	5	8	15	13	10	7	10	9	17	13
40-44.9	11	8	5	11	6	7	8	12	9	11	6
45-49.9	1	7	6	3	3	6	12	3	2	4	7
50-54.9	3	4	0	3	4	1	2	4	5	4	4
55-59.9	1	0	3	1	0	2	5	3	5	1	4
60-64.9			2	1	1	1	0	1		5	
65-69.9					0		0			0	
70-74.9					1		0			1	
75-79.9							0			1	
80-84.9							1				
Medians..	105 23.3	110 20.0	116 19.3	119 19.6	119 18.9	119 19.1	120 22.3	124 22.7	126 21.9	126 24.9	130 23.4

Table LXXVI gives the summaries of the preceding four tables and states also the per cent of outside enrollment in all the schools of the state.

TABLE LXXVI
DIVISIONS OF HIGH SCHOOL ENROLLMENT FOR THE STATE ON THE
BASIS OF PER CENT OF TOTAL HIGH SCHOOL ENROLLMENT

YEAR	IN TEACHER TRAINING DEPARTMENTS	IN PUTNAM† SCHOOLS IN AGRICULTURE	IN BENSON-LEE‡ SCHOOLS IN AGRICULTURE	TOTAL OUTSIDE ENROLLMENT	
				All schools	Industrial schools
1904-05	.0			13.6	23.3
1905-06	1.0			14.2	20.0
1906-07	.8			14.3	19.3
1907-08	1.0			14.3	19.6
1908-09	0.7	0.9		14.6	18.9
1909-10	1.7	0.9		15.4	19.1
1910-11	2.5	2.8	4.6	16.0	22.3
1911-12	3.1	3.2	6.1	16.4	22.7
1912-13	2.8	4.5	6.8	16.2	21.9
1913-14	3.4	4.5	7.0	17.0	24.9
1914-15	*			16.7	23.4

* No data given in report.

† Schools earning \$2,500.00.

‡ Schools earning \$1,800.00.

From the data in the last five tables these conclusions seem warranted:

1. Teacher-training departments have acted largely as a new field of work for regular students and have not attracted non-high school students to a great degree.

2. The schools receiving special industrial aid are a group of schools that have always had a larger per cent of outside enrollment than the group of non-industrial schools.

3. For the state at large the industrial departments have to some degrees drawn non-residents. This result has not been very marked and up to date has succeeded in scarcely more than bringing back to relatively the same group of schools a proportion of outside enrollment equal to what was theirs ten years ago.

4. Except for the short courses and the extension work of departments receiving industrial aid, their most marked service and by far the greatest part of their work has been among the high school children, who in all probability would be in school even if these departments did not exist.

5. In other words, excellent as the industrial work may be, for the state at large its maintenance means only new departments for regular high school pupils rather than any decided change in the personnel of the high school group.

Objections and exceptions to these conclusions may be anticipated.

One will be that no account has been taken of consolidated schools. Nor should there be. When consolidation is considered, then aid for consolidation immediately becomes a partial cause for all results. It is true that the added attraction of industrial aid may have helped toward consolidation in some instances. The present consolidation aid is so liberal, however, as to raise a very serious question as to how much influence industrial aid alone would have had.²⁴

Some may say that associated districts have made some industrial schools possible.

It must not be forgotten that association has been well baited by association aid for both parties concerned.

The Twenty-second Annual Report of the High School Inspector is the only one that gives any data on association.²⁵ Forty-one high schools have such associations, with 831 children included by reason of the associations. We know that in some cases these children are not even transported to the central school, but remain in their own districts under central supervision. Judging according to rural schools in general, the greater proportion of those pupils who go to the central district enter the grades and not the high school department. Let one estimate the number in the high schools, due to association and then let him compute, if he wishes, the ratio of credit between association aid and industrial aid, for the presence of those pupils, and it will be quite clear that the source of error in the previous conclusions on this account is almost negligible.

²⁴ At the date of completing this study, 1916, there is only one pure consolidated school on the high school list. See *Twenty-second Annual Report of State High School Inspector*, 4.

²⁵ *Ibid.*, 64.

SUMMARY AND CONCLUSIONS

1. The group of schools having industrial departments seems to be better organized and standardized as typifying a group.
2. Industrial schools do not have quite so high a unit cost in academic work, as is shown (1) by their close grouping, and (2) by the scattered cases in the non-industrial group.
3. There is a decided lack of standardization of the cost of high school instruction for the state as a whole.
4. Among the industrial departments the cost of home economics is least and seems most nearly uniform.
5. Shop work seems fairly uniform in cost.
6. Agriculture costs are much lacking in uniformity. Without doubt this work lacks standardization.
7. Salaries of agriculture instructors are too greatly out of proportion to other high school salaries.
8. If salaries of agriculture instructors are to include payment for extension work, then a specific part of their total time and salary should be definitely set aside for such purpose. We should know what extension work costs as an item separate from high school instruction.
9. Comparative unit costs indicate that industrial work for boys costs more than academic, but that industrial work for girls never costs more.
10. On the other hand in certain schools special industrial aid results directly in lessening the cost of regular high school instruction by special instructors devoting part of their time to regular high school teaching.
11. The establishment and state support of special departments have meant the enlargement of the curricula for those already attending high school and have not materially increased high school enrollment.
12. Except in the matter of agriculture, unit costs for high school instruction in Minnesota are neither extremely high nor extremely low, as compared with similar costs elsewhere.
13. Standardized methods of accounting and of reporting expenditures should be required so that there can be a strict checking of all expenditures of each department annually.²⁸
14. There should be more adequate provision for close supervision of all special work by the state.
15. The work of all departments should be standardized in direct accordance with the work that the Minnesota communities need.
16. All schools which receive industrial aid should be required to conform to such standards.
17. Through the formation and use of these standards and their proper revision, from time to time, there should be a definite attempt to distribute state aid more equitably among the several departments of the high school.

²⁸ See blank for Industrial School Report.

CHAPTER VIII

CONCLUSIONS

After a consideration of all the facts presented can we answer our first inquiry, "What is the effect of state aid in Minnesota? Is state support securing satisfactory results or results commensurate with the amount of money given?"¹

Before attempting to make a final answer let us try to lay down some criteria or principles which may guide our judgment. Considerable assistance is given us here by a careful examination of some of Swift's findings in his study of "Public Permanent Common School Funds." "The decline of the common school system of Connecticut under the influence of the school fund was a most convincing demonstration of the principle that an endowment which relieves the community from the necessity of raising money by local effort is an injury to the community and to the cause the endowment is seeking to advance."² In New York, the act of 1812, passed three years prior to the first distribution of the revenue of the New York School Fund, required "a local contribution equal to the amount received from the state."³ The House Committee on Education of the Massachusetts Legislature in 1828 stated that if the state gave local communities about one third the amount they themselves raise such grant would act as an incentive to interest and to effort.⁴ The Special Commission on the Permanent Common School Fund of Vermont, 1901, stated, as one of the purposes of a permanent school fund that it should "lay the foundation of a true and actual supervision by the state, of public instruction, in connection with its actual direction of and accounting for school moneys disbursed, particularly such funds as the state itself supplies to towns by taxation or through permanent investment for the support of schools."⁵

Swift concludes that "there has been little uniformity in the object to which different states have permitted the income of the permanent common school funds to be applied."⁶ At the same time a survey shows quite clearly defined aims. "The earlier methods of apportionment . . . were adopted simply as means of distributing the school revenue equally as it was supposed, among the different communities of the state . . . The more complex methods of apportionment . . . have aimed direct

¹ See Chapter 1, p. 2.

² Swift, *Public Permanent Common School Funds in the United States 1795-1905*.

³ *Ibid.*, 168.

⁴ *Ibid.*

⁵ *Ibid.*, 169.

⁶ *Report of the State Commission of Permanent School Funds of Vermont*, 32, quoted from Swift, 1.

⁷ *Permanent Common School Funds*, 171.

to equalize the cost of maintaining schools and to equalize also the opportunities of education throughout the state The second aim revealed in the more complex methods of apportionment is to encourage local communities to employ supervision, more teachers, to increase average attendance, to increase taxation for schools and the number of schools."⁸

He finds that the results of these funds have been: first, to make state provision for a fund to pay teachers' wages, and hence to increase the efficiency of teachers;⁹ second, to secure returns to the state from local school units, and thus to establish a state system of schools and to lay the foundation for state supervision of common schools;¹⁰ third, to decrease the "ratio of the total common school revenues derived from the income of the permanent common school funds;¹¹ fourth, to improve school buildings;¹² fifth, to raise the standards of educational opportunities and facilities by securing¹³

1. Better courses of study
2. Enforcement of truancy laws
3. Libraries, apparatus, free texts
4. Transportation and tuition of pupils

That part of the state aid in Minnesota which is the income from the permanent school funds falls directly in the field of Swift's discussion and conclusions.¹⁴ But before attempting to apply any of his discussion directly to the state situation we may raise the question whether it is fair to judge any of the rest of the state aid of Minnesota by standards the same as or similar to those by which the income from the permanent school funds is judged.

The essential characteristics of a permanent school fund are only two—first, permanency, and second, state control with respect to the distribution of the income to local units. How does special state aid in Minnesota compare in these respects with any permanent fund? The state has done three things through this special aid; (1) It has created a source of aid for its public schools; (2) It has maintained that aid, increasing it at times, over a series of years, thus making it tend to become in essence a permanent or at least a fixed source upon which the schools come to rely; (3) It continues to reserve to itself and to its duly authorized agents the determining of the conditions under which local units may receive this aid. Such aid and such revenue may be justly judged along with the

⁸ *Ibid.*, 190.

⁹ *Ibid.*, 191.

¹⁰ *Ibid.*, 194-7.

¹¹ *Ibid.*, 198.

¹² *Ibid.*

¹³ *Ibid.*, 199.

¹⁴ *Ibid.*, ch. 31.

permanent school funds with respect to the results it has achieved, and without injustice be subjected to similar tests of aims, methods of distribution, and efficiency in general.

The permanent fund income may itself even be supplemented by a form of special subsidy. This is precisely what has been done in Minnesota. Since 1887 the income from a state one-mill tax levy has been added annually to the permanent fund income and the total sum has been distributed as if it all were the income from the permanent fund.¹⁵ Certainly it would be inconsistent and illogical to attempt to make a division here and judge results by two sets of criteria just because the money, though all distributed in the same manner, represents two different sources of income.

But Swift concludes, and forcefully presents the facts on which his conclusions are based,¹⁶ that the existence of a permanent school fund and the distribution of its income do not imply, *ipso facto*, the attempt to reach a given aim or set of aims, or the existence of any given restrictions by which the desired aims are to be attained. It is quite clear then that the case of the permanent fund being augmented by subsidy, as it were, is not the only instance where school support from sources other than the permanent fund may justly be amenable to examination on the same basis as the fund itself.

For fifty-five years preceding this study¹⁷ the schools of the state have been recipients of the benefits of a permanent fund. The only change of importance that has been made in this fund during this more than half century is that its income has been augmented by a state one-mill tax levy. This change was made twenty-six years prior to our investigation. For thirty-five of those fifty-five years the high schools of the state have been a separate group receiving special aid. The only important changes in this aid in the last thirty-three of those thirty-five years have been the increases in amount and the changes in requirements prerequisite to its bestowal. For the last eighteen years of the fifty-five, special aid has been given to the group of schools called graded. The only changes in their aid have been those similar in nature to the changes for high schools. And finally, during the last fourteen years, rural schools have received special state subsidy, with similar changes accompanying this aid.

The consistency of the state's policy in aiding its school, the unbroken series of years over which this policy reaches, indeed every important factor involved makes the whole situation the same as it might have been had the income from the permanent fund grown so fast that it had been distributed to the above named divisions of schools in the changing avenues

¹⁵ *General Laws*, 1887 sec. 3, sub-ch. 84 of ch. 41.

¹⁶ *Permanent Common School Funds* ch. 7.

¹⁷ Since Minnesota was admitted as a state in 1858.

described. In the sixty-eight years between 1835 and 1903 the modifications in the bases of the permanent fund apportionment for Massachusetts represent far greater change and variability than does the whole history of special aid in Minnesota.¹⁸

There is therefore no justifiable reason, either theoretical or practical, why all state aid here considered may not be grouped together and judged by similar standards and principles.

The present three forms of special aid to clearly defined, exclusive groups of schools seem to indicate three different stages of advance or development in the principle of state subsidy. Special aid as administered to high schools reveals no examples of overweening local complacency and community lethargy. The correlation tables show no clear tendency in this direction. The integrity of graded schools is not so unmistakably marked. Neither is there revealed any clearly defined tendency on their part toward using state aid to decrease local tax levy. Graded schools seem to represent the middle stage of development. The rural schools on the other hand are in a precarious situation. They are actually given what they do not need. They are consequently dangerously near the condition which caused a positive decline in the common school system of some of the states earlier in our history, as Swift points out. There is a point beyond which state subsidy tends distinctly to pauperize a local community. Special aid to rural schools, distributed on its present basis, is having this very effect upon the group of schools that receive it.

The causes are not far to seek. In the first place it is very clear from evidence both within the schools and within the legislative field, that appropriations to these schools are made with no real reference to any existing conditions. In the second place, the distribution of the aid is very inadequately supervised. The difference in this respect between rural schools on the one hand and graded and high school systems on the other is significant. Special aid to each of the latter was identical in time with provision for special supervision. A special inspectorship for graded schools was created at the same time, as aid for them, and for high schools soon after special aid for them. Every one of these schools has been visited by its inspector every year until very recently.¹⁹ The state has made very definite requirements for these schools.²⁰ They have become used to the enforcement of these requirements and to gradually but constantly rising standards. The state has known what could be justly asked of the schools because it was in constant close touch with them. Instead of communities saying what they are or are not willing to do,

¹⁸ Cf. *Permanent Common School Funds*, 184-5.

¹⁹ Assistant inspectors for both high and graded schools have been added since the time of this study.

²⁰ Cf. Notes on high schools and graded schools in Appendix A.

they are now told what is expected of them. They are so satisfied with results as they see them that they practically never refuse compliance.

What is the condition with respect to rural schools? Thirteen years before this study, they began to receive special aid. During the intervening time what special supervision or inspection have they had as a companion measure to the aid? Absolutely none that can begin to compare with the inspection of the other groups of schools. Who has determined conditions prerequisite to their receiving aid? With respect to length of the school year and grade of the teachers' certificate, the legislature, in all other standards, the state department of education, and the legislature has even gone so far as consciously to handicap the department in stating its requirements—the attendance at a school shall be no determining factor in deciding the amount of aid any school may receive.²¹

What means has the state department of enforcing its requirements, or even of knowing that they are met by the schools to whom the aid is given? The certification of the county superintendents in whose counties are located the schools applying for aid. What kind of a state inspector of rural schools does the county superintendent make?²² In many counties there are so many rural districts that it is a physical impossibility for superintendents to make the round once a year, make real inspections, and do the other work expected of them.²³ This would not be so bad if this inspector and inspection were expert and untrammelled. But it should be remembered that this superintendent occupies not only an educational position but a political one as well. He has a clientele to satisfy or else he runs the risk of losing his position. In some cases he is more of an educator than a politician. There have been and are notable examples of those who are real educators in these positions and on whose action no shade of administrative expediency falls. In such a system there are other county superintendents, unfortunately, for whom the educational activities are rather formal and the political interests the more practical and urgent. Irregularities in reporting rural schools for special aid are bound to exist when inspectors are the political making of the patrons inspected. This combination of conditions lays a strong temptation before every county superintendent. A system of state aid of which this can be said is not only wholly unjustifiable, it is positively nefarious.

Not only does special rural school aid smell of the "Pork Barrel," not only is it pernicious as a policy of republican government, but it is also a most ample reward for the perpetuation of a very unsatisfactory and even obsolete institution. The rural school is not obsolete, neither is the one-room school. But the special aid as it is at present given to these schools

²¹ *General Laws*, 1911 ch. 60, sec. 1.

²² Cf. Cubberley *The Improvement of Rural Schools* ch. 4.

²³ The writer personally knows of districts unvisited for several years consecutively by the county superintendent.

in Minnesota by prerequisite requirements creates no material betterment of the rural school situation. This is exactly opposite to the results which have come from special aid to high and graded schools. They have accepted more stringent requirements from time to time. At last, special departments of industrial work seem to come in a measure as their reward. The latter schools have been attempting to keep abreast of educational advancement and to discharge their debt to their educational constituents. It is true that aid to graded and high schools has been increased and special aid for industrial work has been added. But aid to rural schools has likewise been increased,—in the light of the schools' needs, ridiculously increased.

Evidence regarding the course of study and subject matter taught is not definite. From answers to a questionnaire sent out by the Commission one can conclude with very little chance of error that with exceptions so rare as to be striking, rural schools follow no courses of study. The lists of the text books now in use seem to indicate a remarkably wide spread satisfaction with texts used by previous generations. ✓

It makes no difference from what view-point the problem is approached, similar facts appear. One is compelled to conclude that the present method of distributing special aid to rural schools has little or no justification whatever. It is a detriment to the educational advancement of the state and a positive handicap to the very group of schools which it is presumed to benefit.

Special aid to high and graded schools, as was pointed out in the summaries of the respective chapters on them, has really made these groups of schools what they are to-day. As has already been pointed out, however, there is a very definite need of readjustment of these aids with respect to well defined aims and standards. What is expected of a district in the way of educational accomplishment? What ought such accomplishments to cost a district? How able is a district to meet these costs? How much encouragement and assistance does it deserve from state subsidy? All these questions should be answered in determining any just basis for state aid distribution.

Aid to special industrial departments has without doubt been of great benefit to the schools and the children of the state. There is one imminent danger in connection with it, however. There is lack of definite aim and of adequate standardization in its distribution. In effect this will in the long run cause results the same as lack of proper supervision would bring. In fact the two things are in the end equivalent. In so far as supervision or inspection, well intentioned as it may be, lacks definite, adequate standards of measurement, there is a lack of *real* supervision. The problem of the state's aid to industrial needs is a thorough, impartial reorganization on

the basis of standards to be determined and defined in terms of the actual conditions of the state's need in this field. No other basis can be satisfactory in securing the results desired or expected.

The apportionment aid has grown to be no small item. It is distributed on a basis of relatively less requirements than when it was instituted. The income from the permanent fund will doubtless be distributed on the basis of "scholars" for some time to come since the constitution requires it. But since it has been proved that the legislature has the right to interpret what constitutes a "scholar," requirement for distributing this aid may be changed from time to time. Standards may presumably be advanced here as in connection with any other given. But the income from the one-mill state tax is wholly within the state's present control. Its continued distribution on the same time-basis as the permanent fund income is surprising to say the least. The present method of distribution is but helping to perpetuate an antiquated and ineffective method of state aid to public education. The dynamic possibilities of this amount, redirected on a carefully determined basis, are very great indeed.

This study began with the purpose of answering a question, of solving a certain problem. Anyone who has followed it so far must be convinced that the attempted solution of the main problem has many others of great importance but which remain yet unsolved. It was not the purpose in presenting this study to include in it any detailed solution of state aid. That is quite another matter. Though it is of immeasurable importance, it is quite outside the bounds of this work and will not be touched upon here.

The study clearly shows that:

1. The state includes communities of widely varying ability in maintaining schools. This is true for each of the three groups of communities included in the main divisions of schools as well as for the state at large.
2. The present method of distributing the apportionment aid is variable, rather than effective for achieving any particular purpose.
3. Special state aid is not distributed according to local needs as in any of the three classes of schools, or according to the needs of industrial departments.
4. Special state aid as administered in Minnesota is a positive detriment to the rural schools.
5. Developmental changes of conditions in the high and graded school situations make the present plan of special aids to these schools out of date.
6. Special industrial aid is not at present adjusted to the actual needs of the departments assisted as shown by the actual costs of these departments.

7. The state does not need greater appropriations for its public schools.
8. The urgent present need with respect to state subsidies for public schools is the careful formulation of a policy of aid to its schools and of objective standards according to which the aid will be distributed.
9. The future possibilities of public school development by a carefully worked out redirection of the present total amount of aid, with frequent rigid checking of results, are beyond computation and seem almost immeasurable.

APPENDICES

APPENDIX A¹
HIGH SCHOOL BOARD RULES RELATING TO HIGH AND GRADED SCHOOLS
HIGH SCHOOLS

1. APPLICATION FOR STATE AID

a. Applications shall be made on the official blank and not later than August 1 of the school year for which aid is asked.

b. Applications shall be referred to the high school inspector. He or an assistant shall visit such schools during the ensuing year, and the inspector shall submit a special report to the high school board at the next annual meeting.

c. The inspector shall not recommend the listing of schools in districts having an assessed valuation of less than \$200,000 or a total enrollment of less than 200 pupils. The assessed valuation of associated territory may be counted.

d. High schools hereafter listed are required to maintain two industrial departments in charge of teachers holding special industrial certificates issued by the superintendent of education.

e. A state school shall be defined as a school which has received state aid to high schools, and is under the supervision of the high school board. The application of a school for supervision does not confer a right to the name before state aid has been granted.

2. GRANTING STATE AID

a. At the annual meeting following a year during which a school has been under supervision, the high school board, taking into consideration the report of the inspector, the report of the examiner, and such other information as may be at hand, shall grant state aid to schools whose work and organization are satisfactory and give promise of permanency. By provision of the law, no school receives aid in excess of the amount expended in carrying out the purposes of the act, exclusive of the cost of buildings and repairs thereon.

b. The high school inspector shall report on the yearly expenditure of each high school. The special report shall include:

(1) The part of the superintendent's annual salary in excess of \$600.

(2) The salaries of high school instructors. In case of instructors giving part time to high school work, proportionate credit shall be given, but in case the eighth grade is combined with the high school for purposes of instruction, the entire salary of at least one instructor shall be charged to grade work. No part of such salary shall be counted in reckoning high school expenditure.

(3) The cost of library fixtures and library books. No credit shall be given for expenditure already balanced by gift or by state aid to school libraries. School boards are at liberty, of course, to make any purchase they may desire, but no credit shall be given for the purchase of subscription books or expensive sets unless the inspector's approval shall have been secured prior to such purchase. Free texts for ordinary class use shall not receive credit.

(4) The cost of laboratory fixtures and apparatus. No credit shall be given for charts, for unusual or expensive apparatus, for sets of apparatus, or for any devices sold by traveling agents, unless the approval of the inspector shall have been secured prior to such purchase.

¹ State of Minnesota, *Department of Education Bulletin* no. 45. May, 1913.

3. REMOVAL FROM THE LIST

Schools failing to comply with these regulations or not maintaining the required standard of efficiency may be dropped from the list. The inspector shall advise the local superintendent and the clerk of such possible action.

4. REQUIREMENTS FOR ADMISSION TO STATE HIGH SCHOOL LIST

a. A suitable building providing not less than five grade rooms below the high school, and high school quarters consisting of at least an assembly room, a recitation room for each instructor, a laboratory and an office. The conditions for health and other sanitary appointments, including toilets, water supply, and disposal of sewage shall conform to the rules made by the superintendent of education. All school buildings hereafter constructed, remodeled or enlarged shall be equipped with a fan system of ventilation, sanitary drinking fountains, and flush toilets. Plans for new buildings or for reconstruction of old buildings must be submitted to the superintendent of education for approval before contract is let or work begun, according to provision in Section 6, Chapter 550, Laws of 1913.

b. A well organized graded school, having not less than five distinct departments below the high school, and including not less than eight grades of elementary school instruction.

c. An observance of the rules for the equipment of a graded school.

d. A qualified superintendent having general charge of grading, instruction, discipline and care of building.

e. A liberal schedule of salaries.

f. Classes in four years of high school work, with a good prospect of classes to follow in regular succession.

5. CONDUCT OF THE SCHOOL

a. Students admitted to the high school shall have satisfactorily completed the common school branches.

b. Permanent records shall be kept to show where each grade pupil belongs, and what work each high school student has completed. A system of card records is recommended. Special and annual reports are to be made by the superintendent and the clerk to the state inspector and the county superintendent of schools.

c. The school shall hold sessions of not less than nine months each year.

d. The high school shall be open, free of tuition, to non-resident pupils upon passing the examination required by law.

NOTE: This rule does not apply to industrial departments for which special aid is granted.

e. The high school department shall be placed in charge of a qualified principal. Not counting the superintendent, or the industrial teachers for whose departments special aid is granted, a special instructor shall be provided for each 30 students or major fraction thereof. In addition to the superintendent, every school shall employ at least two teachers, who shall give their full time to high school work.

f. The superintendent shall be provided with an ample recitation room and an office. He shall have reasonable time in school hours for general supervision and shall teach not to exceed four classes daily, laboratory subjects to count double.

g. School boards shall adopt a liberal policy in supplying the following library facilities and scientific equipment as rapidly as classes come forward to need them:

(1) Material in sets for a four years' course in high school reading.

(2) A botanical or zoological outfit of tables, inexpensive dissecting microscopes, one compound microscope, dissecting instruments, glass jars and alcohol or formalin for preserving material, etc.

(3) Apparatus and equipment adequate to carry on a year's work in physics as outlined in manuals.

(4) Suitable desks, chemicals and glassware for a year's work in chemistry.

(5) A working school library for the use of students in the preparation of their daily work. It is better to equip the classes one or more at a time, and equip each thoroughly, than to scatter a small appropriation. The principal subjects which require assistance from a working library are: English literature, general history, civics, political economy, senior American history, senior geography, physiography, chemistry, physics, zoology, botany, foreign languages.

h. The school board of each school shall issue diplomas to those students who shall be certified by the superintendent to have completed in a creditable manner the preliminary subjects and the work covered by twelve high school credits, a four years' course in English, reading and composition. A year's work in a subject is a credit.

i. The superintendent shall receive a salary of not less than \$1,200 a year. High school instructors shall be paid not less than \$540 a year.

j. The qualifications of teachers shall be those prescribed under "Requirements in Regard to Certificates of Teachers in High and Graded Schools."

k. Before entering into contracts or paying salaries, school boards shall require all teachers and instructors to present their certificates to the superintendent for inspection and record. He shall keep this record on file in his office and shall furnish a copy of the same to the clerk of the school board.

GRADED SCHOOLS

1. APPLICATION FOR STATE AID

a. Applications for state aid shall be made on the official blank not later than October 1st of the first year for which aid is asked.

b. Applications will be considered by the state high school board at its annual meeting, when the inspector will report on schools whose applications have been received.

2. REMOVAL FROM LIST

Schools failing to comply with the requirements or neglecting to maintain a satisfactory standard of efficiency may be dropped from the list. The inspector shall advise the clerk or other officer of the school board of such possible action.

3. BUILDINGS

a. Suitable grade rooms for not less than four departments must be provided.

b. The system of ventilation shall conform to the rules and regulations issued by the Superintendent of Education.

c. New and remodeled school buildings of eight rooms or more must be equipped with a fan system of ventilation, sanitary drinking fountains, and flush toilets. Plans for new buildings or for reconstruction of old buildings must be submitted to the superintendent of education for approval before contract is let or work begun, according to provision in Section 6, Chapter 550, Laws of 1913.

4. CONDUCT OF SCHOOLS

- a. The school shall be in session nine months each year.
- b. Regular and orderly courses of study for eight grades, embracing all such branches as may be prescribed by the high school board, shall be maintained.
- c. The principal shall exercise general supervision over the school, direct the work of teachers, determine the grading, prescribe and give examinations, and perform such other duties as the school board may require.
- d. Permanent records must be kept showing age, attendance, scholarship, and promotion of pupils. Special and annual reports are to be made by the principal and the clerk to the state inspector and the county superintendent of schools.
- e. The seating capacity of each school room shall be determined by allowing not less than eighteen square feet of floor space per pupil.
- f. The qualifications of teachers shall be those prescribed under "Requirements in Regard to Certificates of Teachers in High and Graded Schools."
- g. The salary of a principal of a graded school shall be at least \$700 a year.
- h. The salary of a grade teacher shall be at least \$450 a year.

NOTE: The salary limit stated above becomes effective September, 1914.

- i. Before entering into contracts or paying salaries, school boards shall require the principal and teachers to present their certificates to the clerk for inspection and record. He shall place such record on file, after having satisfied himself that the principal and teachers are legally qualified and have complied with all the requirements of the high school board.

5. EQUIPMENT

Each school shall have:

- a. A library of at least 500 volumes, containing all needed reference books together with special libraries for grade work in history and geography. Additions must be made each year and not less than twenty-five dollars shall be expended annually for this purpose.
- b. Necessary wall maps, charts and globes for work in history and geography.
- c. At least three sets of supplementary readers for each grade.
- d. An international dictionary or its equivalent, and several copies of smaller dictionaries for use in intermediate and grammar grades.

NOTE: In order that there may be some uniformity as to what constitutes a satisfactory equipment, it is suggested:

- 1. That for work in geography each school be supplied with a globe, preferably one suspended from the ceiling and not less than eighteen inches in diameter, and the following maps: The world on Mercator's Projection, the Eastern and the Western Hemisphere, the United States, North America, South America, Europe, Asia, Africa, Australia, Minnesota. The three first named should be of a larger size than the remaining seven.
- 2. That for work in United States history each school be provided with a large outline map of the United States painted on slated cloth. With the aid of colored crayons very effective use can be made of this map.
- 3. That the supplementary reading be made up wholly of books not arranged in series for grades.
- 4. That one International Dictionary, or its equivalent, be considered sufficient for a school of six departments or less.
- 5. That pupils be encouraged to purchase small dictionaries after they have been admitted to the fourth grade, and that, in places where it is considered inadvisable to make this requirement, the school board furnish one dictionary for every four pupils above the third grade.

6. REQUIREMENTS FOR SPECIAL GRANT \$500 FOR HIGH SCHOOL DEPARTMENT

In addition to meeting the preceding requirements each school shall

- a. Have a suitable building of not less than six rooms, including a laboratory.

b. Employ not less than six teachers during the entire year for which aid is granted.

c. Provide the principal a suitable office in addition to his regular recitation room, and allow him not less than two periods daily during school hours for general supervision.

d. Place the assistant principal in charge of the high school department, including grammar school students seated in the room.

e. Pay the principal a salary of not less than \$1,000 a year, and teachers doing high school work, not less than \$540 a year.

NOTE: The salary limit of the principal becomes effective September, 1914.

f. Enroll not less than fifteen pupils in the high school department.

g. Maintain classes in not less than two years of high school work of such character that it will admit students to the third year of any state high school.

h. Adopt a liberal policy in making provision to supply the following library facilities and scientific equipment as rapidly as classes come forward to need them:

(1) Material in sets for a four years' course in high school reading.

(2) A botanical or zoological outfit of tables, inexpensive dissecting microscopes, one compound microscope, dissecting instruments, glass jars and alcohol or formalin for preserving material, etc.

(3) Apparatus and equipment adequate to carry on a year's work in physics as outlined in standard manuals.

(4) Suitable desks, chemicals and glassware for a year's work in chemistry.

(5) A working school library for the use of students in the preparation of their daily work. It is better to equip the classes one or more at a time and equip each thoroughly, than to scatter a small appropriation. The principal subjects which require assistance from a working library are: English literature, general history, civics, political economy, senior American history, senior geography, physiography, chemistry, physics, zoology, botany, foreign languages.

i. Require the completion of work necessary to obtain sixteen credits before issuing a diploma to any of its students. A year's work in a subject is a credit.

SCHOOLS RECEIVING \$2,500 AND \$1,800 INDUSTRIAL AID

The following rules apply to both classes of schools, except as specifically stated.

1. APPLICATION FOR STATE AID

a. Applications shall be made before the first day of August of the first year for which aid is asked on the blank form prepared for the purpose.

b. Each school must be listed provisionally by the high school board before it begins work. If at the end of the first semester it has complied with the conditions, it shall be officially designated for that year.

c. Each school district of less than eighteen sections listed for the \$2,500 aid is required to effect association with rural school districts so as to embrace within its territory at least eighteen sections.

2. AWARD OF AID

a. The annual award shall be made at the regular August meeting of the high school board and shall be based on a compliance with the statutes and the rules of this board relative to amount of aid for which the school has qualified.

b. Each school qualifying for \$2,500 aid shall receive not exceeding \$2,500 per year, and in addition thereto \$150 per year for each associated rural school district,

but in no case shall the total amount received by any such school exceed two thirds of the sum actually expended upon such agricultural and industrial department as certified to the state high school board.

c. Each school qualifying for \$1,800 aid shall receive not exceeding \$1,800 per year, and in addition thereto \$150 per year for each associated rural school district, but in no case shall the amount awarded exceed the actual expenditure of the school for an agricultural department and a department of home economics or manual training as certified to the high school board.

d. In reckoning aid, credit shall be given for

- (1) Salaries of special instructors—in case part time is devoted to this work corresponding credit shall be given.
- (2) Equipment, including tools and apparatus.
- (3) Supplies, including seeds.
- (4) Labor and team work.
- (5) Reference books.
- (6) Extension work in rural schools and among farmers.
- (7) Transportation of instructors.

3. COURSES OF STUDY

a. The industrial courses required by law and covered by these rules shall be maintained throughout the school year.

b. The work in agriculture shall include:

(1) A course based on textbooks, bulletins, and lectures. Agronomy and animal husbandry shall be given not less than a year each. It is desirable that botany, chemistry, zoology, and physics should be given an agricultural trend, but these subjects shall not be counted as a part of the four-years' course in agriculture.

(2) A general course of one year to include gardening, fruit growing, dairying and poultry raising.

(3) A laboratory course, including physical examination of soils, preparation of weed-seed cases, testing of seeds, testing for butter fat, grain judging, stock judging, etc.

(4) Special work along some line of local interest, such as dairying, corn breeding, small grain, potatoes, fruit, meat products, poultry, etc. The school shall not only maintain a standard of general efficiency, but shall develop strength in chosen specialty.

(5) The organization of institute work in cooperation with extension division of the College of Agriculture of the State University.

(6) A short course of three months. In case local conditions are unfavorable, the course may be discontinued with the written consent of the inspector.

4. INSTRUCTORS

a. In a school receiving \$2,500 aid the corps shall include not less than three special instructors, one qualified to teach agriculture, one shop work, and one home economics. The entire time of each instructor shall be devoted to his department.

b. In a school receiving \$1,800 aid two industrial instructors shall be employed, one qualified to teach agriculture and one to teach either home economics or manual training. These instructors shall be in addition to the instructor per thirty students required for state high school aid.

c. The principal of a graded school having not to exceed five grade teachers may teach one industrial subject. In such case he must have the qualifications of an industrial teacher.

d. The agricultural instructor shall be employed for the full calendar year of twelve months. The year of employment shall begin August 1st. His entire time shall be given to the teaching of agriculture and extension work, provided that in schools receiving \$1,800 aid the instructor in agriculture may with the written consent of the inspector be permitted to teach one additional subject, particularly one related to agriculture. This rule shall not prevent the principal of a graded school from acting as instructor of agriculture.

e. The instructor shall be provided with laboratory facilities. During the fall and the spring of the year he shall have not less than a continuous half day for outside and extension work. He shall make a close study of local conditions and attend markets, horticultural meetings, meetings of creamery and stock-breeding and other associations, and such other gatherings as afford opportunity to make the acquaintance of farmers.

f. The instructor in agriculture may not direct manual training, but in schools receiving \$1,800 aid instructors in manual training or home economics may, if qualified, devote part time to academic work. The work in home economics may be divided between two instructors, one for sewing and the other for cooking.

g. The legal qualifications of instructors shall be those prescribed under "Requirements in Regard to Certificates of Teachers in High and Graded Schools."

5. DEMONSTRATION PLOT

Each school receiving \$2,500 aid shall maintain a demonstration plot of five acres or more. This plot shall be owned by the school district or be held under a long lease. It must be kept free of weeds and in a state proper for cultivation and for demonstration purposes. The border shall be seeded down into a sward. A part of the plot shall be devoted to a permanent rotation of field crops of which a record shall be kept by the instructor.

6. EQUIPMENT

a. Agriculture. The instructor shall have one or more rooms exclusively for his work. The classroom shall be equipped with a well-arranged reference library, including bulletins, and facilities for displaying agricultural products. The laboratory shall be provided with apparatus for testing soils, milk, and seeds. The agricultural quarters shall be easily accessible to visitors or persons bringing in farm products. An outside entrance is desirable.

b. Home Economics

(1) In schools receiving \$1,800 aid a special room shall be fitted up with tables, cooking utensils, table service, cupboards, and conveniences for storing kitchen supplies. An adequate equipment shall also be provided, including cutting tables, one or more sewing machines, material suitable for patterns, the materials required for exercise, and such implements as are required in the usual sewing room.

(2) In schools receiving \$2,500 aid the quarters shall include a dining room or administration room, a kitchen laboratory, and a room equipped with tables and machines for sewing.

c. Manual Training

A special room for woodwork shall be provided with benches and the necessary tools. Material for exercises shall be supplied free of charge. Lumber for articles taken home may be charged for at cost. Schools receiving \$2,500 aid shall provide facilities for blacksmithing.

d. The rooms used for industrial purposes must be approved by the inspector. Where but one room is used for a department not less than 700 square feet of floor space shall be considered adequate, and all rooms must be properly lighted and well ventilated.

e. Schools receiving \$2,500 aid shall maintain a farm building large enough to store supplies, tools, and machinery, in case the plot is remote from school building.

7. CREDITS

If the work be done satisfactorily, two periods given daily to an industrial subject or subjects for one year shall count as a credit.

CIRCULAR No. 3, 1913

To Superintendents and Principals of High, Graded, and Consolidated Schools:

Relating to Industrial Departments in high, graded, and consolidated schools and to Training Departments in high schools.

STATE AID

Industrial.—For departments in agriculture, home economics, and manual training, under Chapter 82, Laws of 1911, as amended during the present session.....	\$2,500
For departments in agriculture and either home economics or manual training under Chapter 91, Laws of 1911, as amended during the present session....	\$1,800
(Present aid, \$1,000)	
For training departments for rural teachers—applicable only to high schools....	\$1,000
(Present aid, \$750)	

The present Legislature has also approved an act increasing the annual aid for high schools from \$1,750 to \$2,200, and for graded schools from \$600 to \$750. This increase does not apply to the present school year, but will be included in the distribution of aid in 1914. The same rule applies to the increase in the industrial aid from \$1,000 to \$1,800, and that for training departments from \$750 to \$1,000. For the present school year the special aid will be allowed on the basis of the amounts provided in the old law.

At its meeting on April 5, the High School Board voted:

1. That high schools, graded schools, and consolidated schools be notified of the requirements fixed by recent legislation for earning annual aid of \$2,500, \$1,800, and \$1,000.
2. That schools desiring to continue present special departments, or to establish such departments next school year, be requested to make application in writing to the State Superintendent, or one of the Inspectors.

Schools maintaining any of these departments during the present school year, as well as those planning to establish industrial or training departments for next school year, will file their application with the State Superintendent, or with one of the Inspectors, prior to May 1. Proper blank applications are sent with this letter.

In order that schools may understand the requirements of the law, and the rules of the High School Board applicable to industrial and training departments, there are forwarded with this letter copies of the laws in their existing form, as amended by the present legislature. The new part of the law is indicated in bold type.

Schools Receiving \$2,500 Industrial Aid

(Chapter 82, Laws of 1911, as amended at present session)

The general provisions of law and the requirements of the State High School Board are practically the same as they have been in the past.

In order, however, to increase the usefulness of the industrial departments, slight modifications have been made, to which attention is called. The High School Board, in considering the school demonstration plot, has concluded to require that this shall be owned by the school board or held under a long lease. In this way it will be possible to carry on consecutive work, which ought to prove of value to the community. The Board has also deemed it advisable to require of the schools that the facilities for kitchen and sewing shall include a dining room or administration room, a kitchen laboratory, and a room equipped with table and machines for sewing.

Special attention should be paid at this time to the rule of the High School Board which provides that the agricultural director shall be employed for the full calendar year of twelve months, and that the year of his employment shall begin August 1st.

Schools Receiving \$1,800 Industrial Aid

(Chapter 91, Laws of 1911, as amended at present session)

Under this act each school is required to maintain a department of agriculture and also a department of either home economics or manual training. The present legislature has increased the amount of state aid from \$1,000 to \$1,800. These schools are entitled to the benefits under the association feature and the tuition feature, which the previous law accorded only to the schools drawing \$2,500 state industrial aid. In addition to the regulations which have governed this class of schools, it should be noted that in each high school, two industrial teachers, in addition to the instructors per thirty students required for the state high school aid, shall be employed. It is also well to remember at this time that the instructor in agriculture must devote his entire time to the teaching of agriculture and to extension work. In schools where the agricultural work is exceptionally light, the inspector under whose charge the school is placed is authorized to allow the instructor to teach an additional subject, particularly one related to agriculture. The written permission of the inspector must be secured, however. The technical qualifications of instructors in these departments must be adhered to rigidly, and no requests should be made to the State Superintendent for a special permit, unless the application is one of exceptional merit. In every case it seems proper that the school board or superintendent shall present the request for a special permit for the instructor, rather than expect the instructor to make the application.

In order that the instructor may have ample facilities for doing his work, it is necessary that he should have a laboratory for the exclusive use of his department. During the fall and spring of the year he should be given a continuous half day for extension work and outdoor work in connection with his department.

High School Training Departments Receiving \$1,000 Aid

(Section 1420, Revised Laws, 1905, as amended at present session)

Aid for training departments is increased to \$1,000, but only such amount will be awarded as is spent for the department. Credit will be given for the amount expended, under the following heads:

1. Salary of the instructor
2. Equipment of the room
3. Expenditure for department library
4. Transportation of teachers and students visiting the rural schools.

Otherwise, the rules remain without material change.

April 15, 1913.

C. G. SCHULZ,
Superintendent.

The Rules of the State Department of Public Instruction governing rural school aid at the time of this study are reproduced herewith.

STATE AID, JANUARY, 1913—BULLETIN NO. 40

STATE OF MINNESOTA

DEPARTMENT OF PUBLIC INSTRUCTION

Rules and Regulations Governing semi-graded schools, and rural schools of Classes A, B, and C, applying for state aid

1. SEMI-GRADED SCHOOLS

To be entitled to state aid of \$300.00, the law and the regulations of this Department require:

1. School Term. Must be not less than eight months in each department during the year.
2. Teachers. The principal must hold a state first grade common school certificate, or one of higher rank, during the entire school year, and must have had sixteen months of successful teaching experience. Each of the other teachers must hold at least a state second grade common school certificate. Limited, or county certificates, are not sufficient.
3. School Buildings. Must be suitable for school purposes, clean and well kept. Each entrance must be provided with foot scrapers and cocoa or steel mats.
4. Equipment. Each school must be provided with the following:
 - a. Blackboard. At least 100 square feet for each room.
 - b. Unabridged Dictionary. Must be Webster's International, the Standard, or the Century.
 - c. Abridged Dictionaries. Several copies—not less than five—of an abridged dictionary like Webster's Academic.
 - d. Supplementary Readers. At least two complete sets of supplementary readers for each class or grade, in addition to the regular basic readers.
 - e. Maps. A complete set of eight maps, and a state map, mounted on spring rollers, in a case—preferably a rotary case.
 - f. Globe. A good twelve inch globe—suspension globe preferred.
 - g. Desks. Each school must be equipped with suitable seats and desks, properly arranged and graded according to age and size of pupils. Only single desks should be used.

- h. **Primary Material.** Ample material for seat work in primary grades must be provided. The original expenditure should not be less than \$10.00 and worn-out material should be replaced without delay.
- 5. **Library.** Each school must have a well-selected library, suited to the school. Additions to the amount of \$15 annually must be made. If the district purchases \$15 worth of library books under the library law, the state will meet half this expense. Library books must be ordered before school begins, so that the pupils may have the benefit of them during the school year.
- 6. **Heating and Ventilation.** Each school building must be adequately heated and ventilated in one of the following ways: The system must be constructed and installed in accordance with the requirements of this Department as defined in Appendix A of this bulletin.
 - a. Steam plant.
 - b. Basement furnace.
 - c. Patented system of room heating and ventilation.
 - d. Home-made system of room heating and ventilation.

NOTE: See Appendix A for detailed specifications and requirements.

- 7. **Outhouses.** For all schools not having indoor closets, the school board must provide and keep in good repair and in a cleanly and healthful condition two separate outhouses near the rear of the school grounds and concealed by lattice work and shrubbery. The buildings should have sufficient light and be supplied with sufficient toilet paper. They should be coated inside and outside with paint containing sand. The boys' outhouse should be provided with suitable urinals.
- 8. **School Grounds.** Must be clean and present an orderly and attractive appearance. Every effort should be put forth to beautify the school grounds by planting choice trees and shrubs. Care should be taken that the school grounds are kept free from weeds, ash piles, and other rubbish.
- 9. **Drinking Facilities.** The water supply should be carefully safeguarded, as this is frequently more than any other one thing about the school a potent source for the spread of disease.
A large earthen jar with tight cover and self-shutting faucet may be used. In this case each child should have his own drinking cup and use no other. The common drinking cup and water pail are prohibited by the State Board of Health.
A better plan still is to provide a sanitary drinking fountain. This does away entirely with the use of drinking cups and there is a less opportunity for the spread of contagious disease. A good gravity bubbler drinking fountain can be obtained for about \$20 and will last indefinitely.
- 10. **Progress.** Each school must show that it has attained a high standard of efficiency and has made marked improvement during the year.

I. RURAL SCHOOLS

Class A

- 1. **School Term.** The school term must be not less than eight months during the year.
- 2. **Teacher.** The teacher must hold a state first grade common school certificate, or one of higher rank, from the beginning of and through the entire school year.

3. Library. Each school must have a well selected library suitable for the school. Books purchased under the library law must be added annually to the amount of at least \$10. If the school purchases \$10 worth of library books under the library law, the state will meet half the expense.

NOTE: In all other respects the requirements for Class A are the same as for semi-graded schools.

Class B

The requirements for Class B rural schools are the same as for Class A, except that the teacher may hold a state second grade common school certificate in place of a first grade. This she must have from the beginning of and through the entire school year.

Class C

The requirements for Class C Rural Schools are the same as for Class B, except that the school term is seven months.

(Pages 3 to 6 inclusive, *Bulletin No. 40*, Minnesota Department of Public Instruction, January 1913)

RULINGS OF THE STATE HIGH SCHOOL BOARD AND THE STATE DEPARTMENT OF PUBLIC INSTRUCTION

I. High Schools

NOTE 1. The Board specified that the course of a high school should include elementary algebra, plane geometry, physiology, natural philosophy, English composition, general history, Latin grammar and reader, two books of Cicero's Commentaries, "the writing of English in connection with the foregoing studies, with special reference to correct punctuation and use of capitals, also exercises in reading and declamation. When practicable, instruction in vocal music and drawing shall be added. For a full classical course an examination in the Greek grammar and reader will also be required, and by students taking this course, natural philosophy, physical geography, and physiology [not mentioned before] may be omitted." (Minutes of the State High School Board, April 18, 1878.)

NOTE 2. The secretary is mentioned as the examiner (Minutes of the State High School Board, April 16, 1880) but the minutes clearly show that the different members of the Board, as well as several of the University faculty, were paid for acting in such capacity.

NOTE 3. The Board required of those persons wishing to enter the high school examination in "orthography, reading, penmanship, arithmetic, English grammar, modern geography, United States History." The questions were sent out by the High School Board. (Minutes of the State High School Board, April 18, 1878.)

NOTE 4. The Board did not put a limit upon the time which should be devoted to this high school work but suggested that it be not less than two years. (Minutes of the State High School Board, April 29, 1878)—"non-resident pupils upon application must be admitted without charge for tuition if they can pass the examination prescribed." (Circular No. 1, State High School Board, 1878.) The Board directed that all examination questions should be made out by the state university and that the answers be marked by heads of the respective departments of the University. (Minutes of the State High School Board, May 5, 1879.)

On account of the lack of appropriation for one year the High School Board in 1879 decided to select schools to be aided upon the basis of:

1. Date of application of the school.
2. Location of the school in the state.

3. Population of the districts adjoining the school.
4. The greatest good to the state to be subserved by the appropriation.
(Minutes, May 5, 1879.)

There was some doubt as to the Board's right to impose such conditions. The Board conferred with the attorney general. (Minutes of May 12, 1879.) In his decision, dated May 13, the attorney general stated that the Board had no right to exercise any discretionary powers but was to accept "all public graded schools"—"In the order of their application." (Minutes of May 13, 1879.)

NOTE 5. In May 1881 the following regulations were adopted:

1. All districts receiving aid for high schools must maintain three departments below the high school corresponding to the primary, intermediate, and grammar departments, or their full equivalent.

2. Departments were to be graded "in view of the attainment and ability of pupils, having definite courses of not less than seven years total, not less than one competent teacher, and a comfortable room for each department, furnished with suitable seats, blackboards, and other agencies of successful instruction.

3. "There shall be a class in the high school, as the basis of state aid, consisting of not less than five members on the average for the term of the school year. This class shall pursue a course of study prepared by the High School Board, and the members thereof shall declare a purpose to complete their course; and no person shall be admitted to this class who has not passed a satisfactory examination under the direction of the Board of Education of such high school; such examination to be of sufficient extent and thoroughness to establish the ability of the applicant to pursue successfully the grades of the course. Instruction may be given to this class as well as to the other classes of the school in studies not included in this course, provided that such other studies do not interfere with the successful prosecution of the 'prescribed course.'"

4. "The teacher or teachers of this class shall furnish the High School Board satisfactory evidence of scholarship sufficient to teach successfully all the branches included in the prescribed course of study."

5. The school was obliged to accept non-residents into any of its departments if the applicant held a third grade certificate. All departments were obliged to have at least eight months of school.

6. "... the class which is the basis of state aid shall be examined in the last term of each school year by the President of the University or an examiner approved by him."

The course of study adopted by the High School Board was: first year, arithmetic, elementary algebra, English grammar, geography, United States history, Latin grammar and reader; second year, natural philosophy, physical geography, elementary astronomy, general history, plane geometry, physiology, Caesar completed, Cicero begun; third year, elementary chemistry, geometrical drawing, botany, ancient history, algebra to quadratic equations, solid geometry, Cicero completed, Vergil completed. Exercises were made obligatory in reading, writing and public speaking throughout the course and when practicable instruction in vocal music and freehand drawing. The time which the course should take was not limited except that it should not be less than three years. Successful completion of the above course, as attested by final examination of the Board, admitted to the freshman class of the University in the scientific course. "The schools desiring to enable pupils to prepare for classical courses will modify the above course as follows:

- (1) For the scientific studies of the second year substitute Greek grammar and reader, and

- (2) For the scientific studies of the third year substitute Xenophon's *Anabasis* with the usual collateral."

"The work of the third year of the course will not be exacted as a condition of aid until after further notice from this Board. The completion of the first two years will secure admission to the sub-freshman class of the University." (Minutes of the State High School Board, May 2, 1881.)

NOTE 6. When a school's application was accepted the school was entitled to aid upon completing its organization in the following respects:

1. The principal was to be a graduate of a college, university, advanced course of a normal school, or must have passed satisfactory examination in the studies taught in the department.

2. All pupils received into the high schools were required to pass satisfactory examination under the direction of the principal or the superintendent of the school, in reading, fourth reader; spelling, the same; arithmetic, including operation in the fundamental rules, decimal fractions and compound numbers; grammar, syntax and etymology of Green's Introduction, or its equivalent; geography, including a general knowledge of the location of the political divisions and climate of the world, and also a fuller knowledge of United States History.

3. The high school was to consist of at least twenty pupils and be provided with a separate room and teacher.

4. At the close of each term reports were to be made out by the principal to the secretary of the board as follows:

- (a) of the names of all students received, together with the standings of each student in the branches in which examination is required.
 - (b) of the whole number attending.
 - (c) of the number in each class.
 - (d) of the classes prepared for examination.
 - (e) of the money expended in support of the high school departments.
- (Minutes of the High School Board, October 27, 1881.)

NOTE 7. It is definitely stated that the standings of schools was determined by

1. The certificate of the principal.
2. The "term" reports of the principal.
3. The reports of the visitors.

(Minutes of the State High School Board July 19, 1883.)

NOTE 8. Pursuant to an inquiry from "the convention of superintendents and principals" the Board passed the following resolution: "That the amount of \$400 appropriated by this board under the statute should be expended for the purposes named in the statute, viz: for the encouragement of higher education; that for the purpose it should be set apart and not used to defray the general expenses of the schools; that the secretary be directed to require a report of the expenditure at the close of the year." (Minutes of the State High School Board, September 22, 1884.)

NOTE 9. In 1885 the High Schools under the inspection of the State High School Board were divided into three classes: First class, schools that met the following requirements and conditions:

1. Thoroughly organized elementary grades, pupils graded and regularly promoted, departments carefully superintended, and records kept.
2. Thorough and complete preparation for the high school.
3. The high schools were to be provided with apparatus for natural philosophy and chemistry sufficient for the course of study, and properly arranged and well kept.
4. The course of study in the high school was to be pursued continuously in all years preparatory to the University. Final examinations were to be held in all

subjects and "a reasonable percentage of certificates received." Graduations were to be made only upon the completion of the course and upon the certificate of final examination of the High School Board.

5. The high school was to be provided with a library of books of reference and of general reading in history, biography, literature, and travel, such as was required by students in the pursuit of their studies and for their general information.

The second class included all schools that were making decided progress in their organization, equipment, and supervision in all respects, although they had not yet reached the standards required for the first class.

The third class included the schools in the "experimental stage" having the following general characteristics:

1. Imperfectly graded elementary department.

2. Preparation for high school imperfect in scholarly attainments and in command of the elements of English in reading, composition, and arithmetic.

3. Not adequate supply of apparatus and books.

4. The course of study confined to the first and second years.

The President of the University and the Superintendent of Public Instruction were made a committee to classify the schools annually. Schools of the third class were to make improvement sufficient for promotion "within a reasonable time." (Minutes of the State High School Board, May 16, 1885.)

NOTE 10. In 1886 classification rules were changed in the following particulars:

1. High schools of the first class were required to give final examinations only in those subjects required by the board.

2. Classification of the schools hereafter was to be made for three years subject to revision in the discretion of the State Board.

3. The third class of schools was required to do only two of three years of work prescribed by the Board. (There is no record of division of the previously named subjects according to the years of the course.) (Minutes of the State High School Board, November 17, 1886.)

On August 26, 1889, Number I of the rules passed November 17, 1886 was rescinded.

NOTE 11. "After the present scholastic year no high school shall be credited with an enrollment of any pupils who have not passed the preliminary examination in orthography, arithmetic, geography, and United States history. All others in the high school shall be reported as conditioned and shall not be graduated without having passed in these branches." "—all examination papers shall be first examined as to penmanship and orthography and any paper not deserving a mark of 65 in spelling shall be thrown out without further examination than spelling." (Minutes of the State High School Board, December 22, 1891.)

NOTE 12. On May 22, 1893, the Board voted to accept state teachers' certificates in the place of the certificates of the Board. The legislature of this year provided for more thorough inspection of the schools. The Board at this meeting provided formally for an inspector to act as its agent and fixed his salary at \$2,000 per year. On June 29 following, George B. Aiton was elected as Inspector of High Schools.

NOTE 13. On November 18 of the same year the following recommendations were made by the Inspector and adopted by the Board:

1. "That local boards be required to provide and adhere to a four-year college preparatory course as an essential feature of their high school work.

2. "That boards of education be required to provide their superintendents with adequate office facilities, and to enable them to devote reasonable time to supervision.

3. "That high schools of the first class be required to provide library facilities and to employ methods of instruction calculated to give power to use the same, in the study of English literature, history, and kindred subjects; also that schools of this class be required to provide laboratory facilities, and to employ methods of instruction on systematic individual laboratory work in the sciences—particularly in physics, botany and chemistry.

4. "That schools accepted for supervision be known as 'schools under supervision,' and be not listed as high schools until they have been authorized to receive the special high school appropriation." (Minutes of the State High School Board, November 18, 1893.)

NOTE 14. On September 10, 1896 the Board voted that city superintendents would not be required to hold state certificates unless they were to teach classes in addition to performing the duties of a superintendent.

NOTE 15. On the recommendation of Mr. Aiton the following was adopted by the Board:

1. Classification into first, second, and third classes was abolished "and the inspector shall characterize the schools, either singly or by groups, both as to general efficiency and as to excellence in particular subjects."

2. State examinations were made optional "except that the inspectors may require any school to take the regular state examinations as a part of their instruction." (Minutes of the State High School Board, July 12, 1897.)

NOTE 16. Rules and Regulations of the State High School Board.

Organization of the Board

1. The Governor shall act as President of the Board, the Superintendent of Public Instruction shall act as Secretary, and the President of the State University shall act as examiner.

2. An annual meeting of the Board shall be held in August, as soon as practicable after the close of the fiscal year.

3. Special meetings may be held at the call of the Secretary.

Application for State Aid to High Schools

1. All applications for state aid shall be made to the Secretary of the Board on the official blank prepared for that purpose, and shall be made not later than August 1 preceding the school year for which aid is requested.

2. All applications shall be considered at the annual meeting of the Board, and schools considered worthy shall be accepted for supervision. Applications shall be considered at special meetings only in cases where delay in making application appears to have a valid reason.

3. The applications of schools accepted for supervision shall be referred to the high school inspector, whose duty it shall be to visit such schools during the ensuing school year and to submit a special report to the high school board at the next annual meeting.

4. At the annual meeting following a year during which a school has been under supervision, the high school board, taking into consideration the report of the inspector, the report of the examiner, and such other information as may be at hand, shall grant state aid to schools whose work and organization may appear to be satisfactory and to give promise of permanency.

5. A state high school is defined as a school which has received state aid to high schools and which is under the supervision of the high school board. The acceptance of a school for supervision shall not confer a right to the name before state aid shall have been granted.

6. Schools whose terms of state aid have expired and which have made reapplication for aid, may be replaced on the list unconditionally or if unfavorable conditions come to the knowledge of the board, such as a change of local policy or the employment of a superintendent and instructors whose qualifications are not well known, the school may be accepted merely for supervision, and the question of a place on the list may be deferred until the next annual meeting.

Conditions Requisite for Acceptance

The following requirements are in accord with the past experience of the board and are made with a view to secure conditions which render efficient work practicable and give promise of permanence. The increase of state aid to \$800 justifies great care in admitting schools to the list.

1. A comfortable building providing not less than four grade rooms below the high school, and high school quarters consisting of at least a main room, a large recitation room, a laboratory, and an office.

2. A well organized graded school, having not less than four distinct departments below the high school, and including not less than eight years of elementary and grammar school instruction.

3. A well chosen geographical library for the sixth and seventh grades.

4. An adequate library of American history for eighth grade work.

5. Suitable wall maps, a globe, and an unabridged dictionary for each of the upper grades.

6. A liberal supply of reading material in sets for each grade.

7. A well qualified superintendent having general charge of grading, instruction, discipline, and of the care of the building.

8. A liberal schedule of salaries. It is not the policy of the high school board to prescribe salaries, but in the light of experience the board expresses a want of confidence in the ability of a school to earn the state grant of \$800 without salaries liberal enough to secure the services of a competent superintendent and instructors of approved experience. Experience also demonstrates that towns having a population of less than 1,000 people, and an assessed valuation of less than \$200,000 are seldom justified in undertaking the expense of supporting a state high school.

9. Scholarly classes, well started in at least the first two years of high school work, with a good prospect of classes to follow in regular succession, to maintain a full four years' course.

Conduct of the School

1. Students admitted to the high school shall have satisfactorily completed the common school branches.

2. Permanent records shall be kept to show where each grade pupil belongs, and what subjects each high school student has completed.

3. The school shall hold sessions of not less than nine months each year.

4. A high school shall be open, free of tuition, to all non-resident pupils, upon passing the examination required by law.

5. The high school department (including grammar school students, if necessary) shall be placed in charge of a well qualified assistant.

6. The superintendent of the school shall be provided with an ample recitation room and office, and shall have reasonable time in school hours for general supervision.

7. Boards of education shall adopt a liberal policy in making provision to supply the following library facilities and scientific equipment as rapidly as classes come

forward to need them. The amounts named represent the cost of respectable beginnings for small classes.

- a. Material in sets for a four years' course in high school reading, \$50.
- b. A botanical or zoological outfit of tables, inexpensive dissecting microscopes, one compound microscope, dissecting instruments, glass jars and alcohol or formalin for preserving materials, etc., \$80.
- c. Apparatus and equipment adequate to carry on a year's work in physics as outlined in the manual, \$200.
- d. Suitable desks, chemicals, and glassware for a year's work in chemistry, \$90.
- e. A working school library for the use of students in the preparation of their daily work. The amounts named below are sufficient, if expended with judgment, to equip the various classes fairly well. It is understood that none of these books are required until classes are formed that need them. It is better to equip the classes one or more at a time, and equip each thoroughly, than to scatter a small appropriation. The principal subjects which require assistance from a working library are: English literature, \$100; general history, \$100; civics, \$40; political economy, \$60; senior American history, \$75; senior geography, physiography, \$50; chemistry, \$30; physics, \$40; zoology, \$50; botany, \$75; foreign languages, \$25, each.

8. The board of education of each school shall issue diplomas to those students who shall be certified by the superintendent to have satisfactorily completed the preliminary subjects and the work covered by twelve high school credits and a four years' course in reading. A year's work in a subject is called a credit.

Teachers' Qualifications

1. The superintendent and high school instructors shall hold professional state certificates of the first class. These certificates are issued by the state superintendent of public instruction on the basis of a written examination, or upon the presentation of a diploma from an institution of higher learning, as provided in Section 3749 of the General Statutes of 1894. To obtain a professional state certificate, candidates must have taught with success in the state for at least one year. All candidates not graduates of a full four years' college course adjudged equal to that of the University of Minnesota may obtain the professional certificate by examination only. Examinations under the direction of the state superintendent of public instruction are held by an examining board twice a year, at the State University near the close of the University summer school, in August, and again at the Capitol in St. Paul during the Christmas holidays. As stated in rule three this regulation does not apply to superintendents and high school instructors who have had successful experience in state high schools previous to the adoption of these regulations. Professional certificates from other states are not accepted.

2. Candidates who have passed the required examinations or who hold a college diploma as above defined, but who are debarred from obtaining state certificates only by want of experience or shortness of residence may have their diploma or record of examinations endorsed for one year by the secretary of the High School Board. Candidates thus debarred from obtaining a professional state certificate and desiring the endorsement of the secretary of the High School Board for a year must submit therewith a legal certificate or license issued by local authority.

3. Before entering into contract or paying salaries, boards of education shall require the superintendent and high school instructors to have their state certificates or diplomas or records endorsed by the secretary of the high school board with the

words, "valid for state high schools." Boards failing to comply with this regulation shall, at the discretion of the high school board, forfeit their claim to state aid, provided, however, that nothing in these rules shall operate to disqualify a present instructor, of known scholarship and successful experience in high school work from continuing to hold a position in a state high school.

State Examinations

1. State high school board examinations are offered to all schools in the state twice a year, beginning on the last Monday in January and the last Monday in May. (Not all subjects are offered at the mid-year examination.)

2. Ungraded schools arrange for examinations through their county superintendents. All other schools apply to the examiner of the state high school board for questions on blanks prepared by him for that purpose.

3. All examinations must be conducted in strict compliance with the rules of the examiner.

4. Examinations are optional for all schools, except that the inspectors may require examinations as part of their inspection.

By order of the State High School Board

J. H. LEWIS, *Secretary*

Department of Public Instruction.

St. Paul, August 8, 1899.

NOTE 17. "After 1903-4 no teacher will be accepted by the State High School Board as qualified to teach in such schools (specially aided high or graded) who has not at least a second grade state certificate, and no teacher shall be deemed qualified to teach above the sixth grade in such schools who has not at least a first grade state certificate." (Minutes of the State High School Board, August 23, 1902.)

NOTE 18. The High School Board allowed permits to be granted by the state superintendent to expert teachers to teach their specialties. (Minutes of the State High School Board, March, 1903.)

NOTE 19. By reason of a communication of August 21, 1903 from the attorney general the president of the Normal School Board was declared a member of the State High School Board, under Section 6, Chapter 86, Laws of 1895. (Minutes of the State High School Board, October 29, 1903.)

NOTE 20. "Resolved that first, after this year, no credit be given in the state-aided high schools for the cost of fuel; and second, that the boards of education be required to provide at least one high school instructor for each thirty students or major fraction thereof." (Minutes of the State High School Board, May 14, 1904.)

NOTE 21. On August 22, 1904 when special aid was distributed, out of the total of 151 high schools aided, eleven were allowed the state funds on the basis as stipulated by the rule of the preceding May, prorating their receipts to their expenditures. "Schools under the supervision of the State High School Board are required to employ teachers for primary grades who have had at least an elementary course in a state normal school or in professional training schools of rank equal to a normal school. This rule does not apply to teachers now at work in the primary grades of the schools, but is intended to regulate the employment of new teachers for such grades." (Minutes of the State High School Board, November 21, 1904.)

NOTE 22. "A graduate from the advanced course of Minnesota state normal school shall be accepted as superintendent of a state high school on the recommendation of the president of the normal school from which the student is graduated, the inspector of high schools, and the inspector of graded schools, provided that this recommendation is to be given only on satisfactory evidence that the applicant has

attained high standing as supervisor and instructor." (Minutes of the State High School Board, April 21, 1905.)

NOTE 23. Inspectors were instructed to report to the High School Board concerning the heating and ventilation of each school visited by them and request improvements where the same were found to be manifestly deficient. (Minutes of the State High School Board, December 11, 1905.)

NOTE 24. Upon the recommendation of the state high school inspector the Board voted that after the school year 1909-10 the minimum salary of the superintendents should be \$1,000. (Minutes of the State High School Board, April 28, 1909.)

NOTE 25. On the recommendation of the state high school inspector, the following rule was adopted: "Every school shall employ at least two teachers in addition to the superintendent, who shall give their full time to high school work. (Minutes of the State High School Board, August 20, 1909.)

NOTE 26. Beginning September 1912, high school districts were obliged to pay their superintendent not less than \$1,200 annually. (Minutes of the State High School Board, January 22, 1901.)

NOTE 27. After September 1912 the following rules were to be null and void: "Teachers in grades from the second to the sixth, inclusive, shall hold at least second grade certificates, teachers of seventh and eighth grades shall hold at least first grade certificates." In place of the above the following was to take effect September 1, 1912: "Teachers of the second to the eighth grade, inclusive, shall hold at least first grade state certificates." (Minutes of the State High School Board, April 2, 1910.)

NOTE 28. "Resolved that the valuation and population of school districts which associate with a high or graded school under the Putnam Act shall be counted toward the valuation and population required by the rule of the High School Board for high and graded schools." (Minutes of the State High School Board, November 4, 1910.)

NOTE 29. On August 10, 1911 the requirement that a high school district have not less than 1,000 population was repealed.

NOTE 30. "Beginning with the school year 1912-13 no superintendent shall be employed in connection with a high school who has not had at least two years' experience as a teacher of graded work or in rural schools, or in supervising grade work. This rule shall not affect the reappointment of present superintendents." (Minutes of the State High School Board, October 25, 1911.)

NOTE 31. "In schools seeking to earn \$2,500 industrial aid the director of agriculture shall give his entire time to agriculture and extension work; in schools seeking to earn \$1,000, the director of agriculture shall give his entire time to agriculture and extension work, except that additional subjects, 'particularly those relating to agriculture' may be authorized by the state inspector." (Minutes of the State High School Board, April 13, 1912.)

II. Graded Schools

NOTE 32. Regulations for graded schools to receive \$200 aid.

1. Applications considered in the order of their receipt.
2. Nine months session.
3. Each school to have not less than three "full-sized, cheerful, well-kept rooms."
4. Well organized graded school, having not less than three distinct departments.
5. Each school to pursue a course of study corresponding essentially to the graded course in the high school manual.

6. Upper or grammar school department to be open, free of tuition, to non-resident pupils, subject to regular entrance examinations at the discretion of the principal.

7. Each school to be "supplied with maps, dictionary, a globe, charts, primary material, and supplementary reading befitting an intelligent, progressive management."

8. "The school shall build up a library well supplied with books for the study of geography and American History."

9. It shall annually present a class, properly prepared for examination in the common branches.

10. "The annual apportionment of \$200 shall be voted by this Board at the end of the school year upon evidence of satisfactory work."

11. "The principal shall hold a special certificate granted by the High School Board, which in addition to promise of professional success will require one of the following in evidence of scholarship:

- a. a diploma of a reputable university or college.
- b. the advanced diploma of a state normal school.
- c. the diploma of a high school known for scholarship and giving a full four years' course.
- d. a creditable examination in the common branches and such academic branches as may be required by this Board. (Minutes of the State High School Board, May 1895).

NOTE 33. A. W. Rankin was appointed Graded School Inspector. (Minutes of the State High School Board, August 8, 1896.)

NOTE 34. The Board passed a resolution to the effect that "Graded schools receiving \$200 must maintain three departments throughout the year." (Minutes of the State High School Board, February 5, 1896.)

NOTE 35. It was directed that the principals of graded schools must hold a special certificate of the High School Board "issued to applicants of high character and successful experience," otherwise the requirements for such principals were the same as those designated May 3, 1895, except that at this time the Board reserved the right to issue a permit to an applicant eligible except for experience, and no more special certificates were to be issued. (Minutes of the State High School Board, August 17, 1896.)

NOTE 36. See the minutes of August 23, 1902, under High Schools.

NOTE 37. "Graded schools after July 31, 1903 must pay principals not less than seventy-five dollars per month and grade teachers not less than forty dollars." (Minutes of the State High School Board, May 13, 1903.)

NOTE 38. See Minutes of November 21, 1904 under High Schools.

NOTE 39. See Minutes of December 11, 1905 under High Schools.

NOTE 40. On August 20, 1907 a new set of rules governing the requirements for graded schools was adopted.

Ventilation—School buildings must be provided with a system of ventilation which shall meet the approval of the State Board of Health.

Equipment—Each school shall have:

1. Necessary wall maps, charts, and globes for work in history and geography.
2. At least one set of supplementary readers for each grade.
3. An International dictionary, or its equivalent, and several copies of small dictionaries for use in intermediate and grammar grades.

Qualifications of Teachers:

1. No teacher who has not been graduated from a course affording special training in primary work shall be qualified to teach a primary room in any graded school.
2. Teachers in grades from the second to the sixth, inclusive, shall hold at least second grade certificates.
3. Teachers of the seventh and eighth grades shall hold at least a first grade state certificate.
4. The principal of a graded school is required to hold a professional state certificate, or a diploma from the advanced course of a Minnesota state normal school, or of a reputable college or university, or a diploma of an equal rank from a state normal school outside of Minnesota, which diploma must first be endorsed by the superintendent of public instruction before it is valid.
5. A limited certificate is not valid in any graded school.
6. Before entering into contracts or paying salaries, school boards in districts maintaining state graded schools shall require the principal and teachers to present their certificates for inspection and record to the clerk of the school board.

Teachers' Salaries:

No principal of a graded school shall receive less than seventy-five dollars a month for his services as principal and no teacher less than forty dollars a month.

Removal from List:

Schools failing to comply with the above requirements or neglecting to maintain a satisfactory standard of efficiency may be dropped from the list. It shall be the duty of the inspector to warn the clerk or other officer of the school board of such possible action.

By order of the State High School Board.

J. W. OLSEN, *Secretary*

Department of Public Instruction,
St. Paul, August 20, 1907.

NOTE 41. On April 28, 1909 the following rules were passed by the High School Board concerning graded schools receiving \$500 special grant for high school work:

1. A suitable building of not less than six rooms, including a laboratory, shall be provided.
2. Not less than six teachers shall be employed during the entire year for which aid is granted.
3. The principal shall be provided with ample recitation room and office, and shall have reasonable time in school hours for general supervision.
4. The assistant principal shall be in charge of the high school department, including grammar school students seated in the room.
5. The assistant principal must hold a state professional certificate, or a diploma from the advanced course of a state normal school or of a reputable college or university.
6. The salary of the principal shall not be less than ninety dollars a month.
7. Not less than twenty pupils shall be enrolled in the high school department.
8. Not less than two years of high school work of such character that it will admit students to the third year of any state high school shall be maintained.

In the report of the state inspector of graded schools for 1910 equipment is described more in detail.

1. That for work in geography each school be supplied with a globe, preferably one suspended from the ceiling and not less than eighteen inches in diameter, and the following maps: the world on Mercator's Projection, the Eastern and Western Hemispheres, the United States, North America, South America, Europe, Asia, Africa, Australia, Minnesota. The three first named ought to be a larger size than the remaining seven.

2. That for work in United States history each school be provided with a large outline map of the United States painted on slated cloth. With the aid of colored crayons very effective use can be made of this map.

3. That the supplementary reading be made up wholly of books not arranged in series for grades.

4. That one International dictionary, or its equivalent, be considered sufficient for a school of six departments or less.

5. That pupils be encouraged to purchase their own small dictionaries after they have been admitted to the fourth grade, and that, in places where it is considered inadvisable to make this requirement, the school board furnish one dictionary for every four pupils above the third grade.

NOTE 42. On January 22, 1910 the Board passed a ruling that graded schools with high school departments should pay their principal not less than \$900 annually.

NOTE 43. On August 10, 1911 the number of students required in high school departments of graded schools was changed from twenty to fifteen.

III. Rural Schools

NOTE 44. The writer has been unable to secure or find reprints of the rules of the Department of Public Instruction governing state aid to rural schools previous to 1909.

A pamphlet entitled "Special Aid to Semi-graded and Rural schools—Department of Public Instruction, Minnesota, May 20, 1909," is reproduced here in toto.

SPECIAL STATE AID TO

SEMI-GRADED AND RURAL SCHOOLS

RULES GOVERNING SEMI-GRADED AND FIRST- AND SECOND-CLASS RURAL SCHOOLS
APPLYING FOR STATE AID
In effect August 1, 1909

Semi-graded Schools

To be entitled to special state aid of \$300 as a semi-graded school, the law and regulations of this department require:

1. School must have maintained, in each of the two departments, for the full period of eight months during the year.

2. The principal must hold a first grade common school certificate, its equivalent, or one of higher rank, during the entire school year. The other teachers must hold at least second grade common school certificates. Limited certificates, and county third grade certificates are not sufficient.

Unless school officers are themselves thoroughly familiar with the rules relating to certificates, they should confer with their county superintendent.

3. The school building and each room must be clean and well kept. **PROPER PROVISION MUST BE MADE FOR HEATING AND VENTILATING** in accordance with instructions in closing portion of this pamphlet.

4. The district must have a suitable school building, outhouses, library, and apparatus necessary for doing efficient work.

5. The school must be provided with sufficient blackboard, slate preferred, and a Webster's International, an Unabridged Standard, or a Century Dictionary. It must have at least one complete set of supplementary readers for each grade or class in addition to the regular readers used, and a well selected library, to which there must yearly be made additions to the amount of at least \$15.

If the district purchases \$15 worth of library books under the library law, the state will meet half the expense. The books must be ordered early in the school year and not later than January 1st, so that the pupils may have the benefit of them during most of the school year.

6. The application of each school must show that it has maintained its standard of efficiency in both work and equipment, and that some improvement has been made during the year. The school grounds must be kept neat and clean, and present an orderly and attractive appearance. Each building should have two outhouses properly built and cared for, some distance apart. Where conditions seem to demand it, these may be built together, provided they are separated by a strong wall, impervious to sound, and the approaches are separated by a tight board fence at least eight feet high. Outhouse conditions not complying with these rules must be cured AT ONCE.

7. The school must have an aggregate attendance of at least 3,200 days.

Rural Schools, First and Second Class

Schools employing first grade teacher and applying for the \$150 state aid will be known as FIRST CLASS rural schools; those employing a second grade teacher and applying for the \$100 aid will be known as SECOND CLASS rural schools.

To be entitled to special state aid as a rural school of the first or second class the law and the regulations of this department require that:

8. School must have been maintained for the full period of eight months during the year.

9. The teacher in a school of the FIRST CLASS must have held a first grade common school certificate, its equivalent, or one of higher rank, from the beginning of and through the school year. In one of the SECOND CLASS the teacher must in like manner, have held a second grade common school certificate. A limited certificate does not meet the requirements of law.

Unless school officers are thoroughly familiar with the rules relating to certificates, they should confer with their county superintendent.

10. For both classes of rural schools the district must have a suitable building, outhouses, a library, and apparatus necessary for doing efficient work.

For rural schools of the first and the second class this department makes the same requirement it makes of semi-graded, the school building and its equipment, heating, ventilating, blackboards, sets of supplementary readers and dictionaries. Books to the amount of \$10 must be added to the library yearly. The rule regarding outhouses will be strictly enforced, and is the same as for semi-graded schools.

AID WILL NOT BE GRANTED TO EITHER CLASS OF RURAL SCHOOLS IN WHICH THE AGGREGATE ATTENDANCE IS LESS THAN 1,600 DAYS.

Teachers' Certificates

11. It will be observed that the certificates required of the teacher in each state-aided school is a STATE certificate of either the first or the second grade. A limited certificate or a county third grade certificate will not be sufficient for any teacher in any department of a semi-graded, or in a first or second class rural school receiving special state aid.

Application and Award

12. Under the provisions of Chapter 142, Laws of 1905, this special aid will be paid to the various school districts by the County Treasurer, after October 1st in the same manner as other school funds.

County Superintendents are required by law to make recommendation of districts for this aid. The department must rely very largely upon the intelligence, discrimination and judgment of the superintendents. AN APPLICATION SHOULD NOT BE FORWARDED, OR DISTRICT RECOMMENDED UNLESS THE SUPERINTENDENT IS FULLY SATISFIED THAT THE DISTRICT HAS COMPLIED WITH BOTH THE SPIRIT AND THE LETTER OF THE LAW, AND WITH THE REQUIREMENTS OF THIS DEPARTMENT.

The State Superintendent apportions the aid awarded to each school that has fully complied with the law; but if the amount available under this act be not sufficient to apportion the full amount to each school entitled to receive aid, it will be divided PRO RATA.

The County Superintendent will please observe that we prefer to have all the applications from his county at one time, and that they must reach this office before August 15th.

Heating and Ventilating of One- and Two-Room Schoolhouses As Required for Special State Aid.

Supplementary to Bulletin No. 15, this information is intended to make clear the attitude of the state department on various questions that have been raised by county superintendents and school officers relative to the heating and ventilating of school buildings. It aims to state the essential requirements as definitely and as briefly as possible.

Stove Heating with Home-made Ventilating System

13. The chimney shall be at least 20x20 inches clear on the inside, throughout its entire length. This is the standard size for a room in which the average attendance does not exceed 30. It should be set into the side of the building so that only one side of it is exposed, and should extend at least 25 feet above the level of the floor, and at least 4 feet above the highest portion of the roof.

Inside the chimney shall be a stack, 8 inches in diameter, made of No. 16-gauge steel. This stack shall rest on the floor of the chimney for support, shall be held in place by side braces, and shall extend two feet above the chimney top. The smoke shall enter the stack at the usual smoke-pipe height. Proper provision for removal of the soot is to be made in the lower part of the stack.

Ventilation

14. The foul air shall be drawn into the chimney through a register at the floor. Two registers are preferable. The lower edge of each shall be level with the floor, and the top not more than 14 inches above it. The total area of the registers used is to be one quarter greater than that of the chimney flue.

Stove

15. The stove shall be surrounded by a shield or casing standing at least 6 inches away from it and not less than 12 inches above the floor.

Shield

16. This is to be built of Russian iron, or polished or plated steel, with a lining of asbestos, and an inside lining of corrugated tin, to make it as nearly as possible radiation-proof.

Fresh Air

17. The fresh-air intake shall have an area as great at least as that of the foul-air flue, exclusive of the smoke stack. It must not diminish in size toward the inside.

It must so enter the space between shield and stove as to insure that the fresh air will be thoroughly warmed before it finds its way into the room.

It has been proved that a fresh-air register under the stove does not do the work intended, and this would not, therefore, be accepted as meeting the requirements. Such registers tend to spread cold air over the floor before it is heated. (See Bulletin No. 15, pages 9 and 10.)

Furnace Heating and Ventilating of a One-Room Schoolhouse

18. The requirements in this case as to chimney, smokestack, and fresh-air intake are the same as those laid down regarding a home-made ventilating system.

Where more rooms than one are to be heated, there must be a corresponding increase in the measurements indicated for ventilation purposes. The heat should be carried from furnace to schoolroom, either by means of a galvanized duct leading up through a partition wall, if possible, or through a separate flue in the chimney. The heat should enter the room about 7 feet from the floor—in no case through registers in the floor. (See Bulletin No. 15, Pages 10 and 11.)

Patent System Heating and Ventilating of a One-Room Schoolhouse

19. The chimney shall be not less than 12x16 inches clear on the inside throughout its entire length, and unobstructed in any part of it.

The foul-air ventilator leading into the chimney shall be at least the equivalent of 12 inches in diameter.

The fresh-air intake shall be as large, at least, as the foul-air ventilator, and preferably larger. The stove shield and the fresh-air devices must meet the requirements set forth for a home-made system in these particulars.

Explanatory Statement

20. Heating and ventilating systems that entail the use of a double-flue chimney, one compartment of which acts as a foul-air ventilator, have proved inadequate and unsatisfactory, and will not be accepted after the present school year, except as explained in Rule 21 of this pamphlet.

A shield that rests on the floor, and a fresh-air register that opens under the stove, have also proved inadequate and unsatisfactory, and will in no case hereafter be accepted.

Systems that have foul-air ventilators unheated or smaller than the requirements demand will not be accepted.

21. A building having a heating and ventilating system installed in accordance with the provisions of Bulletin No. 3, issued by this department in 1904 (with chimney not less than 16x24 inches clear on the inside, or the equivalent of it) will not be required to change the plans or system for a continuance of the aid so long as the system and the chimney are in good usable and working order.

Previous to the issuance of Bulletin No. 15 in May 1908, the department accepted, as meeting the state aid requirements, a patented system with a fresh-air intake and foul-air ventilator the equivalent of 10 inches in diameter; and districts which had such a system installed before that time will not be debarred by it from still receiving aid while the chimney and the system continue in good working order.

It is not the purpose to require frequent or unnecessary changes in heating and ventilating systems. The department will recognize any practical and workable system heretofore in use, which complied with the requirements as they existed at the time it was installed.

General Suggestions

22. Means of Heating. Stoves of the round-oak type with firepots 20 to 24 inches in diameter—according to the size of the room—are well suited for ventilation purposes. Box stoves are unsightly and unsatisfactory; their use should be

abandoned as soon as possible. Base-burners are not adapted for ventilation systems, and should not be used.

Placing of Chimney. Whenever practicable, the chimney should be in the same end of the building as the entrance. This makes it possible to have the heater near the door, convenient for the bringing in of fuel and the carrying out of ashes, and also serves as a means of checking cold drafts occasioned by the opening of the door.

Cost. School boards should bear in mind that the installation of a proper system of heating and ventilation is a permanent improvement, as well as a fundamental requisite for a successful school. It is usually economy in the end to pay a little more for something that is right than to try to get along with makeshifts. Before putting in a new and untried system of heating and ventilating, or making any changes in a system already installed, school boards are urgently advised to confer with their county superintendent.

C. G. SCHULZ,
Superintendent of Public Instruction

NOTE 45. Copies of further regulations have not been found up to a circular letter issued by the State Superintendent, dated November 8, 1912. The stipulations governing state aid in this circular are:

"Your attention is directed to one additional requirement for the receiving of state aid in semi-graded and in rural schools of Classes A, B, and C.

'(h) Primary Material. Ample material for seat work in primary grades must be provided—at least \$10 for each school.'

It is desirable that this rule should effect the provision of this material in the schools during the present school year. Beginning with the school year 1913-14, the rule will be uniformly enforced."

IV. Industrial Departments

NOTE 46. A. Each school must be listed by the State High School Board before it begins work.

B. The equipment shall include at least:

1. One shop.
2. One room for domestic science exclusively.
3. One class room.
4. One laboratory.
5. Farm buildings sufficient to shelter seeds, tools, and children in case the plot is removed from the school building.

C. Instructors required:

1. The corps shall include not less than three special instructors, one having had training in agriculture, one in shop work, and one in domestic science.
2. In case of a rural consolidated school one of these instructors may be the principal.
3. In addition to a legal certificate, each special instructor shall hold a diploma from a reputable school of agriculture, a technical school, or a permit from the secretary of the High School Board.

D. In reckoning aid, credit shall be given for:

1. Salaries of special instructors—in case part time is devoted to the work corresponding credit shall be given.
2. Equipment, including tools and apparatus.
3. Supplies, including seeds.
4. Labor and team work.

5. Reference books. .

6. Extension work in rural schools.

E. No part of the fund may be expended in purchasing ground or in erecting buildings. (Minutes of the State High School Board, April 28, 1909).

On May 4, 1909 the following rules were added:

1. That the farm building shall contain a suitable office room for the person in charge of the agricultural work and a suitable recitation room.
2. That the inspectors and the State Superintendent be directed to prepare suitable courses of study for the work in schools designated under the Putnam act.

NOTE 47. The regulations of the State High School Board for schools maintaining special departments authorized by the law of 1911 are set forth in Circular No. 3, 1911, of the Department of Public Education.

REGULATIONS OF THE

STATE HIGH SCHOOL BOARD

FOR SCHOOLS MAINTAINING A DEPARTMENT OF AGRICULTURE AND A DEPARTMENT OF HOME
ECONOMICS OR MANUAL TRAINING
IN ACCORDANCE WITH CHAPTER 91, LAWS OF 1911

CIRCULAR No. 3, 1911

(Chapter 91, Laws of 1911)

SECTION 1. Any High School or Graded School which shall maintain such a course as the High School Board of this State shall prescribe in Agriculture and either in Home Economics or in Manual Training, shall receive annually in addition to other aid the sum of One Thousand (\$1,000) Dollars for maintaining such industrial courses, to be paid from the appropriations made for State aid to High and Graded Schools.

SEC. 2. This aid shall not be paid to any school receiving aid under any other act, for the maintenance of industrial courses.

The following rules apply to high and graded schools alike:

1. Applications for the aid (\$1,000) are made before the first day of August to the Superintendent of Public Instruction on the blank form prepared for the purpose.

2. The consent of the High School Board shall be obtained before the departments are established and the work is undertaken.

3. The annual award—which is made at the regular August meeting of the board—will be based on satisfactory work in agriculture and home economics, or in agriculture and manual training, during the preceding school year.

4. The industrial courses authorized by this law and covered by these rules shall be maintained throughout the school year, and shall be free of tuition to all applicants, except that the tuition of non-resident pupils is chargeable against the school district to which such pupils belong.

5. In addition to the longer course, each school shall offer a free winter short course of not less than three months.

6. Instructors. Each instructor in agriculture, sewing, cooking, or manual training shall have had adequate training in a technical school. The instructor in agriculture shall be a graduate of an agricultural college, or shall have had technical training equivalent to that of a graduate of such institution. Each of these instructors shall, before a contract is made, secure from the Superintendent of Public Instruction a special industrial certificate, issued only on the recommendation of

persons in a position to know the qualifications of the candidate, and upon the endorsement of the state inspector.

The superintendent or the principal of a school having not to exceed five grade teachers may teach one industrial subject. In such case he must have the qualifications and hold the certificate required for an industrial teacher.

The instructor in agriculture may direct manual training. The work in home economics may be divided between two instructors, one for sewing and the other for cooking. A regular high school or grade teacher may devote part time to sewing or to cooking, provided she possess the qualifications and hold the certificate necessary for an industrial teacher.

7. Courses. Home economics shall be held to include both cooking and sewing. A room is here defined as one having not less than 700 square feet of floor space, and properly lighted and ventilated.

Sewing. An adequate outfit shall be provided, including cutting tables, one or more sewing machines, material suitable for patterns, the materials required for exercises, and such implements as are required in the usual sewing room.

Cooking. A special room shall be fitted up with tables, cooking utensils, table service, cupboards, and conveniences for storing kitchen supplies.

Manual training. A special room shall be provided with benches and the necessary tools. Material for exercises shall be supplied free of charge. Lumber for articles taken home may be charged for at cost.

Agriculture. The instructor shall have a room exclusively for his work. He shall be provided with laboratory facilities, and shall have not less than a continuous half day for agriculture work. He shall make a close study of local conditions, and attend markets, horticultural meetings, meetings of creamery and stock-breeding and other associations, and such other gatherings as afford opportunity to make the acquaintance of farmers.

The work in agriculture shall include:

- a. A course based on textbooks, bulletins, and lectures.
- b. A laboratory course, including physical examination of soils, preparation of weed-seed cases, testing of seeds, testing for butter-fat, grain judging, stock judging, etc.
- c. Special work along some line of local interest, such as dairying, corn breeding, small grain, potatoes, fruit, meat products, poultry, etc. The school shall not only maintain a standard of general efficiency, but shall develop strength in a chosen specialty.
- d. The organization of institute work in coöperation with the extension division of the college of agriculture of the state university.
- e. A winter short course.

If the work be done satisfactorily, two periods given daily to an industrial subject or subjects shall count as a credit.

May 1, 1911.

C. G. SCHULZ,
*State Superintendent and Secretary of
the High School Board.*

CIRCULAR NO. 7, 1912

Superintendents, Principals, and School Boards:

Your attention is directed to the questions referred to in this circular that relate to Industrial departments in high schools and graded schools.

At its annual meeting on August 1st, the High School Board adopted these regulations:

REGULATIONS OF THE HIGH SCHOOL BOARD RELATING TO
INDUSTRIAL TRAINING DEPARTMENTS

School Plot

The board of each high and graded school which receives the special award for agricultural work, and which maintains a school farm, must keep its plot or field free of weeds, and in a state proper for cultivation and for demonstration purposes. Compliance with this rule will be taken into consideration by the High School Board in making the award.

Employment of Agricultural Director

High and Graded schools which receive the special award for agricultural work and instruction are required, beginning with the present school year, to employ the agricultural director for the full calendar year of twelve months, that he may render efficient and useful service in this special line to his school and community. The year of employment will begin August 1st.

Tuition

High and Graded schools receiving the special award for industrial work, which charge tuition for the enrollment of non-resident pupils in the industrial department, are required to make monthly statements to the home district, of the number of pupils enrolled, the number of days' attendance, and the amount of tuition charged against the district for the month.

It is a matter of importance for the schools which maintain an industrial department, and which collect tuition from the rural schools tributary to them, on account of enrollment of non-resident students, that no misunderstanding or ill-will should grow from these relations. The High School Board asks that the school board and superintendent in each central school handle this situation in a systematic and businesslike way. To this end, it requests them to give notice to the clerks of the rural schools upon the enrollment of each new student from the respective districts and to send monthly statements of the tuition charged. To facilitate this work, sample blanks have been prepared and are here sent you, so that each school may provide itself with a supply of them.

Department of Industrial Education

To provide for the training of teachers of agriculture, the High School Board, in conjunction with the Board of Regents of the University, has employed Mr. A. V. Storm, formerly of the State College at Ames, Iowa, to take charge of a department in the College of Agriculture to be known as the Department of Agricultural Education. The work of Mr. Storm begins with the opening of the present school year. He will spend at least half of his time during the year visiting schools in which agricultural departments are maintained that receive state aid. His visits to the schools will be to study agricultural education in Minnesota, with a view to training teachers for this service.

High School Board Examinations—Dates for 1913

January 20 and 21—in certain half-year High School subjects.

January 24 and 25—in Grammar grade subjects.

May 26 to 29 inclusive—in both Grammar grade and High School subjects.

August 20, 1912.

C. G. SCHULZ,
Superintendent.

APPENDIX B

Herewith are presented three of the five tables as published in the final brief report of the Commission.¹ The fifth table has already been included in the chapter on Rural Schools. The following matter is reproduced without change from pages 28-31, inclusive, of the report.

Enrollment in:

High school districts.....196,752—43.8 per cent
 Graded school districts..... 34,223— 7.8 per cent
 Rural school districts.....218,007—48.4 per cent

Attendance:

Total days attendance in high school districts.....30,571,941—53 per cent
 Total days attendance in graded school districts..... 5,131,076— 8.9 per cent
 Total days attendance in rural school districts.....21,865,741—38.1 per cent

TABLE I

RELATION OF VALUATION AND TAXATION TO COST OF INSTRUCTION

COUNTY	ASSESSED VALUATION PER PUPIL ENROLLED		AVERAGE SPECIAL TAX RATE IN MILLS			AVERAGE EXPENSE IN CENTS PER DAY OF ATTENDANCE		
	RURAL	HIGH AND GRADED	RURAL	HIGH	GRADED	RURAL	HIGH	GRADED
1. Carlton.....	\$1,067	\$ 1,677	16.	12.2	39.2	23.5	22.8	28.1
2. Hubbard.....	1,577	816	16.03	21.	.....	25.25	18.7	.....
3. Kittson.....	3,099	1,134	6.04	25.	12.2	30.42	26.5	26.1
4. Norman.....	2,217	1,127	5.34	28.	16.7	20.5	26.9	24.4
5. St. Louis.....	4,369	10,585	16.5	11.5	28.1	40.	81.8	52.1
6. Douglas.....	1,663	1,249	6.	19.1	12.2	17.7	27.8	17.7
7. Isanti.....	1,133	859	7.5	27.7	25.6	15.2	21.6	30.
8. Meeker.....	2,426	1,229	5.27	19.9	13.6	19.08	25.9	24.8
9. Scott.....	2,427	1,483	4.13	18.8	.....	21.33	29.8	37.6
10. Wilkin.....	3,489	1,112	7.	33.8	25.9	31.6	29.3	.....
11. Dodge.....	2,666	1,073	5.44	21.9	15.3	22.5	27.76	17.8
12. Fillmore.....	2,728	996	5.6	26.8	19.7	24.08	25.3	20.9
13. Pipestone.....	3,294	1,163	5.62	23.	23.5	26.3	27.1	28.2
14. Watonwan.....	3,317	1,212	3.53	19.	17.	20.33	21.6	18.6

¹ See Chapter 1, p. 1.

TABLE II

RELATION OF STATE SUPPORT TO TOTAL COST OF MAINTENANCE
(State support is the sum of annual aid and apportionment)

COUNTY	STATE SUPPORT EACH DAY PER PUPIL			ANNUAL COST PER PUPIL ENTITLED TO STATE APPORTIONMENT			PER CENT OF STATE SUPPORT AS RELATED TO TOTAL COST		
	RURAL	HIGH	GRADED	RURAL	HIGH	GRADED	RURAL	HIGH	GRADED
	CENTS	CENTS	CENTS				PER CENT	PER CENT	PER CENT
1. Carlton.....	7.8	5.2	10.8	\$28.40	\$37.60	\$42.40	35.72	23.3	35.7
2. Hubbard.....	6.6	8.1	.....	30.90	27.70	.....	32.99	42.1	.....
3. Kittson.....	8.1	8.9	15.2	36.15	37.80	36.50	29.41	33.8	54.3
4. Norman.....	7.8	8.3	8.6	22.50	40.60	34.20	38.64	32.	36.6
5. St. Louis.....	7.5	4.6	6.2	51.60	139.00	86.40	16.49	6.3	10.7
6. Douglas.....	8.2	7.1	7.	19.00	38.30	28.00	48.84	33.4	39.9
7. Isanti.....	7.5	6.9	7.5	18.19	33.70	43.40	44.99	32.2	25.2
8. Meeker.....	8.	10.4	7.6	21.30	40.60	36.60	40.99	39.7	30.7
9. Scott.....	8.1	12.2	.....	19.70	50.60	.....	42.28	39.8	.....
10. Wilkin.....	8.1	8.5	11.	36.30	44.40	57.10	27.24	28.6	30.5
11. Dodge.....	8.3	12.4	6.3	27.50	46.70	29.00	39.29	45.	30.5
12. Fillmore.....	8.2	8.4	7.1	27.90	43.00	34.90	35.63	33.5	34.1
13. Pipestone.....	8.3	7.2	8.3	32.60	43.00	42.00	34.00	26.4	33.8
14. Watonwan.....	8.1	7.2	6.1	21.30	39.00	30.60	39.24	30.25	33.

NOTE: One fifth of the rural schools in these counties actually received more from the state than they raised by local taxation.

TABLE III

ATTENDANCE AND SALARIES

COUNTY	AVERAGE DAYS OF ATTENDANCE			AVERAGE MONTHLY SALARY OF TEACHERS
	RURAL	HIGH	GRADED	RURAL
1. Carlton.....	110.5	160	137	\$50.15
2. Hubbard.....	90.3	139	.....	45.66
3. Kittson.....	90.66	140	127	51.14
4. Norman.....	88.6	146.5	130	49.70
5. St. Louis.....	117.6	153	144	64.50
6. Douglas.....	105.75	130	141	51.00
7. Isanti.....	100.9	143	131	54.90
8. Meeker.....	95.25	139	144	52.30
9. Scott.....	89.8	140	.....	49.65
10. Wilkin.....	92.13	140	129	52.92
11. Dodge.....	101.2	143	148	50.76
12. Fillmore.....	94.94	148	140	45.84
13. Pipestone.....	101.5	146	121	52.80
14. Watonwan.....	89.8	143	145	48.73

TEACHER'S SALARIES FOR ENTIRE STATE

	MAXIMUM	MINIMUM
High school districts.....	\$2,000	\$540
Graded school districts.....	1,450	389
Rural school districts.....	800	210

APPENDIX C
LAWS PASSED BY THE LEGISLATURE OF 1915
LAWS OF 1915 MINNESOTA
CHAPTER 238

CONSOLIDATION OF SCHOOL DISTRICTS

SEC. 1. Two or more school districts of any kind may consolidate either by the formation of a new district or by the annexation of one or more districts or unorganized territory to an existing district in which is maintained a state graded, semi-graded, or high school as hereinafter provided.

A district so formed by consolidation or annexation shall be known as a consolidated school district. Before any steps are taken to organize a consolidated school district, the superintendent of the county in which the major portion of territory is situated, from which it is proposed to form a consolidated school district, shall cause a plat to be made showing the size and boundaries of the new district, the location of school houses in the several districts, the location of other adjoining school districts and of school houses therein, and the assessed valuation of property in the proposed district, together with such information as may be of essential value, and submit the same to the superintendent of education who shall approve, modify, or reject the plan so proposed, and certify his conclusions to the county superintendent of schools.

SEC. 2. To receive state aid as a consolidated school of Class A or Class B, as defined in this act, the consolidated districts must contain not less than twelve sections; provided, however, that when any consolidated school district shall have attained a valuation of \$200,000 and not exceeding \$1,000,000, and contains within its borders an incorporated village which consolidated district contains but ten sections, such consolidated district shall have all the rights and privileges of a consolidated school district. Any existing school district having the area and meeting the requirements specified in this act, shall have the rights and privileges of a consolidated school district.

SEC. 3. After approval by the superintendent of education of the plan for the formation of a consolidated school district, and upon presentation to the county superintendent of a petition signed and acknowledged by at least twenty-five (25) per cent of the resident freeholders of each school district or area affected, qualified to vote at school meetings, asking for the formation of a consolidated school district in accordance with the plans approved by the superintendent of education, the county superintendent shall, within ten days, cause ten days' posted notice to be given in each district affected, and one week's published notice, if there be a newspaper published in such district, of an election or special meeting to be held within the proposed district, at a time and place specified in such notice, to vote upon the question of consolidation.

SEC. 4. At such meeting the electors shall elect from their number a chairman and clerk who shall be the officers of the meeting. The chairman shall appoint two tellers, and the meeting and election shall be conducted as are annual meetings in common and independent districts. The vote at such election or meeting shall be by ballot, which shall read: "For Consolidation," or "Against Consolidation." The officers at such meeting or election shall, within ten days thereafter certify the result of the vote to the superintendent of the county in which such district mainly lies. If a majority of the votes cast be for consolidation, the county superintendent within

ten days thereafter shall make proper orders to give effect to such vote, and shall thereafter transmit a copy thereof to the auditor of each county in which any part of any district affected lies, and to the clerk of each district affected, and also to the superintendent of education. If the order be for the formation of a new district, it shall specify the number of such district. The county superintendent shall also cause ten days' posted notice, and one week's published notice, if there be a newspaper published in such district, to be given of a meeting to elect officers of the newly formed consolidated school district; provided, that the board of a consolidated school district shall form, and after the formation of the consolidated district, have all the powers, privileges, and duties now conferred by law upon boards of independent districts. After the formation of any consolidated school district, appeal may be taken as now provided by law in connection with the formation of other school districts. Nothing in this act shall be construed to transfer the liability of existing indebtedness from the district or territory against which it was originally incurred.

SEC. 5. In like manner, one or more school districts may be consolidated with an existing district in which is maintained a state high or graded, or semi-graded school in a district containing an incorporated village, in which case the school board of the district maintaining a state high or graded, or semi-graded school in a district containing an incorporated village, shall continue to be the board governing the consolidated school district, until the next annual school election, when successors to the members whose terms then expire shall be elected by the legally qualified voters of the consolidated school district; provided, however, that in the case of consolidation with a school district in which there is maintained a state high or graded, or a semi-graded school in a district containing an incorporated village, consolidation shall be effected by vote of the rural school districts only in the manner provided under this act, and by the approval of such consolidation of the rural district or districts with the one in which there is maintained a state high or graded or semi-graded school in a district containing an incorporated village, by the school board thereof.

SEC. 6. In like manner any portion of an unorganized school district or district governed by a county board of education may be consolidated with an existing district in which is maintained a state high, graded, or semi-graded school, by a vote of the county board of education in the county in which is located such unorganized territory and by the approval of such consolidation of the unorganized territory and by the school board of the district in which is maintained a state graded, semi-graded, or high school.

SEC. 7. The officers of the several districts forming a consolidated school district shall within ten days from receipt of copy of the order of the county superintendent certifying the formation of the new district, or immediately after election and qualification of members of the school board in the consolidated school district, turn over to the proper officers of the newly elected school board, or to the proper officers of the school board in the district maintaining the state high or graded or semi-graded school, all records, funds, credits, buildings, property, and other effects of their several districts.

SEC. 8. For the purpose of promoting a better condition in rural schools, and to encourage industrial training, including the elements of agriculture, manual training, and home economics, the board in a consolidated school district is authorized to establish schools of two or more departments, provide for the transportation of pupils, or expend a reasonable amount for room and board of pupils whose attendance at school can more economically and conveniently be provided for by such means; locate and acquire sites of not less than two acres, and erect necessary and

suitable buildings thereon, including a suitable dwelling for teachers, when money therefor has been voted by the district. They shall submit to the superintendent of education a plat of the school grounds, indicating the site of the proposed buildings, plans and specifications for the school building and its equipment and the equipment of the premises.

SEC. 9. (1) For receiving state aid, schools in consolidated districts shall be classified as A and B. Schools of Class A shall be in session at least eight months in the year and be well organized. They shall have suitable school houses with the necessary rooms and equipment. Those belonging to Class A shall have at least four departments and those belonging to Class B, at least two departments. The board in a consolidated school district maintaining a school of either class shall arrange for the attendance of all pupils living two miles or more from the school, through suitable provision for transportation or for the boarding and rooming of such pupils as may be more economically and conveniently provided for by such means.

(2) Besides maintaining schools in consolidated districts conforming to the requirements of those coming under classes A and B, the school board may maintain other schools of not more than two departments, and receive state aid for these as provided for semi-graded and rural schools.

SEC. 10. (1) The principal of a consolidated school shall be qualified to teach the elements of agriculture, as determined by such tests as are required by the superintendent of education. A school of this class shall have suitable rooms and equipment for industrial and other work, a library, and necessary apparatus and equipment for efficient work, and a course of study embracing such branches as may be prescribed by the superintendent of education.

(2) The principal and other teachers, including special teachers, shall have such qualifications as may be fixed by the superintendent of education.

SEC. 11. Schools under Class A in consolidated districts shall receive annually aid of five hundred dollars (\$500); those under Class B shall receive annually aid of two hundred and fifty dollars (\$250).

In addition to such annual aid, schools shall receive annually the amount reasonably expended for the transportation of pupils, not to exceed two thousand dollars (\$2,000).

In addition to other annual aid, consolidated schools of either of the above classes shall receive an amount to aid in the construction of buildings, equal to twenty-five (25) per cent of the cost of such buildings, but no school shall receive more than a total of two thousand dollars (\$2,000) for aid in construction of buildings. The annual aid and the aid for buildings shall be paid in the same manner as now provided by law for the payment of other state aid to public schools.

Whenever any school in a consolidated district attains the rank of a state high or graded school, it shall possess the rights and privileges of such school.

SEC. 12. Sections 1289, 1290, 1291, 1292 and 1293, Revised Laws of 1905, and chapter 326, Session Laws of 1905, and chapter 304, Session Laws of 1907, chapter 207, Session Laws of 1911, and chapters 279 and 428, Session Laws of 1913, and other acts and parts of acts inconsistent herewith, are hereby repealed.

CHAPTER 239

RELATING TO INDUSTRIAL DEPARTMENTS, ASSOCIATION WITH CENTRAL SCHOOL AND STATE AID FOR THESE

SEC. 1. Definitions,—“Industrial Subjects” as that term is used in this act, shall include courses in agriculture, home training (including cooking and sewing), manual training, and commercial training.

The term "central school" as used in this act, shall mean the school or schools of a district in which industrial courses are given.

SEC. 2. Schools Designated to Maintain Industrial Courses.—Any high school, graded school, or consolidated rural school which has satisfactorily met the requirements in regard to rooms and equipment, and has shown itself fitted by location and otherwise to give training in any one or more of the industrial subjects, may be designated by the state board of education to maintain such industrial courses, and to receive state aid therefor.

Any school now operating and receiving state aid under the provisions of chapter 247, General Laws of 1909, and the acts amendatory thereof, shall continue to be aided under the provisions of this act for its industrial departments, provided such school maintains the standards made for receiving aid on such account.

Any such school which has secured a tract of land for experimental and demonstration purposes may continue to own and operate such tract in connection with the industrial school courses.

SEC. 3. Qualifications of Instructors in Industrial Departments.—Each such school shall employ trained instructors for the several courses having such qualifications as may be fixed by the state board of education.

SEC. 4. School Garden and Experimental Tract.—A school maintaining a course in agriculture may procure a tract of land suitable for school garden and for purposes of demonstration located within the school district, or if outside of the school district not to exceed three miles from the central building.

The board may require a school having a course in agriculture to procure a tract of land for the purposes stated.

SEC. 5. Instruction Shall Be Practical; Short Course.—The instruction in agriculture, as well as in the other industrial courses, shall be of a practical character and shall include such questions and the study of such subjects or courses as have a direct relation to the business of farming, home making, and the other subjects included under the head of industrial studies.

When necessary to accommodate a reasonable number of boys and girls to attend only in the winter months, special classes shall be formed for them.

SEC. 6. Association.—For the purpose of providing training and instruction in agriculture and such other industrial subjects as can properly be taught to pupils in rural schools, and to extend the influence and supervision of the central school to rural schools, one or more school districts may become associated with a high, graded, or consolidated rural school in which industrial courses are maintained.

Such association may be effected with a central school even though such central school has not been designated to receive annual state aid on account of maintaining industrial courses.

SEC. 7. Procedure for Association.—Association shall be effected upon action taken at any annual or special meeting of the rural school district seeking such association, under such rules as the state board of education may establish.

The association shall be considered as effected only after the approval by the school board of the central district and by the state board of education.

SEC. 8. Duties of Superintendent or Principal of Associated Rural Schools.—The superintendent or principal of the central school shall exercise the same authority and supervision over the associated rural schools as over the central school. He shall prepare for the associated rural schools suitable courses of study in agriculture and in such other industrial courses as may properly be taught in the associated rural schools.

SEC. 9. Any pupil from an associated rural school shall be admitted to any grade or department in the central school upon the same conditions as pupils resident in the district of the central school.

SEC. 10. Termination of Association,—The relationship between any associated school district and the central school shall be permanent except as it may be terminated by a majority vote of the voters of the associated district.

SEC. 11. Associated School Board,—The members of the various school boards of the associated rural districts and the members of the school board of the central district shall constitute a board to be known as "The Associated School Board of _____ of _____."

SEC. 12. Duties of Associated School Board,—The duties of the associated board shall be:

(a) To hold such meetings at the central school at such times as the associated board may determine.

(b) To act on questions affecting the relation of the associated rural schools and the central school.

(c) To submit to a vote of the various associated rural districts the question of levying a tax in the associated rural districts to assist in the erection of an agricultural and industrial building in connection with the central school, and the levy and collection of a tax for this purpose.

The associated school board may also submit to the several associated rural districts the question of levying a tax in such district to assist the central districts in the maintenance of the industrial courses, such tax in no case to exceed two (2) mills in any year.

Before any tax, either for building or for maintenance, shall be levied, it must be voted for and approved by each of the rural districts so associating with a central school.

(d) To procure for demonstration and experimental work in agriculture, when necessary, a tract of land in one or more of the associated rural districts.

SEC. 13. Officers of Associated School Board,—The officers of the district of the central school shall be the officers of the associated school board.

SEC. 14. State Aid to Industrial Departments,—High, graded, and consolidated rural schools maintaining courses in agriculture, home training (including cooking and sewing), manual training, and commercial training, shall receive one thousand dollars (\$1,000) for the agricultural course, and six hundred dollars (\$600) for each course in home training (including cooking and sewing), manual training, and commercial training.

Aid to each of these departments shall not exceed the sums paid as salaries in the respective departments.

SEC. 15. State Aid to Schools on Account of Association,—Rural school districts associated with a central school shall receive annually fifty dollars (\$50) on account of such association.

The central school with which a rural school or rural school district is associated for the purposes herein stated shall maintain departments in agriculture and such other industrial subjects as the state board of education may require, and shall receive annually two hundred dollars (\$200) for each such associated rural school or school district.

SEC. 16. In case the state board of education referred to in this act shall not be provided by law, the authority herein granted to such board shall rest in the state high school board and the state superintendent of education in accordance with the provisions of existing law.

SEC. 17. Repealing Clause,—Chapter 247, General Laws, 1909; chapter 82, General Laws, 1911; chapter 309, General Laws of 1913; and chapter 91, General Laws of 1911, as amended by chapter 96, General Laws, 1913, are hereby repealed.

CHAPTER 296

STATE AID TO PUBLIC SCHOOLS

SEC. 1. For the purpose of aid to public schools there shall be established the following state funds:

(a) The endowment fund, which shall consist of the income on the permanent school fund.

(b) The annual fund, which shall consist of the sums appropriated by the legislature for special aid to public schools or departments in the schools.

(c) The current school fund, which shall consist of the amount derived from the state one-mill tax.

SEC. 2. The state board of education shall distribute the annual funds and any other sums appropriated by the state to schools and libraries, in such manner and upon such conditions as will enable them to perform efficiently the services required by law, and to further the educational interests of the state. To this end the state board shall have power to fix the requirements for receiving and sharing in the state aid.

SEC. 3. The endowment fund shall be distributed semi-annually to school districts whose schools have been in session at least six months, in proportion to the number of scholars of school age who have attended school at least forty (40) days during the preceding year.

The annual funds shall be distributed as follows:

SEC. 4. Rural schools in session at least eight months, shall receive one hundred and fifty dollars (\$150) for each teacher holding a first-class certificate. Rural schools in session at least seven months annually shall receive one hundred dollars (\$100) for each teacher holding a second-class certificate.

SEC. 5. A graded school in session at least nine months in the year shall receive six hundred dollars (\$600) and an additional one hundred dollars (\$100) for each grade teacher employed in excess of four, counting the principal as a teacher.

A graded school may receive an additional two hundred and fifty dollars (\$250) for each high school teacher.

The total aid to a graded school on this basis shall not exceed thirteen hundred dollars (\$1300).

No graded school in the same district with an aided high school shall receive annual aid. This provision shall not apply to districts of ten or more townships.

SEC. 6. A high school in session at least nine months in the year shall receive annually eighteen hundred dollars (\$1800).

SEC. 7. High, graded, or consolidated schools, maintaining courses in agriculture, home training (including cooking and sewing), manual training, or commercial training, shall receive one thousand dollars (\$1,000) for the agricultural course, and six hundred dollars (\$600) for each course in home training (including cooking and sewing), manual training, and commercial training.

Aid to each of these departments shall not exceed the sums paid as salaries in the respective departments.

SEC. 8. High schools maintaining a department for training rural teachers shall receive annually twelve hundred dollars (\$1200). A school employing more than one teacher in such department may receive not to exceed two thousand dollars (\$2,000).

A school employing more than two teachers in such department and enrolling not less than fifty students may receive not to exceed twenty-eight hundred dollars (\$2800).

SEC. 9. Consolidated schools of Class A shall receive annually five hundred dollars (\$500).

Consolidated schools of Class B shall receive annually two hundred and fifty dollars (\$250).

In addition to this annual aid consolidated schools shall be reimbursed for the amount reasonably expended for transportation of pupils, not to exceed two thousand dollars (\$2,000).

Districts providing school buildings for consolidated school purposes may be reimbursed up to one fourth of the cost of such buildings, but not to exceed two thousand dollars (\$2,000).

SEC. 10. Each school shall receive in addition to other aid, library aid amounting to ten dollars (\$10) for each teacher employed, with a maximum of twenty-five dollars (\$25) to a building, provided the district appropriates a like amount for the same purpose.

SEC. 11. Districts whose local tax levy for maintenance of schools exceed twenty mills (20) in any year may receive in addition to other aid, one third of the amount raised in excess of that received from the twenty (20) mill levy with a maximum of twenty-five hundred dollars (\$2500) to each high school, eighteen hundred dollars (\$1800) to each graded school, and to rural schools, two hundred dollars (\$200), for each teacher.

SEC. 12. Rural school districts associated with a central school shall receive annually fifty dollars (\$50) on account of such association.

The central school with which a rural school or rural school district is associated for the purposes herein stated shall maintain departments in agriculture and such other industrial subjects as the state board of education may require, and shall receive annually two hundred dollars (\$200) for each such associated rural school or school district.

SEC. 13. The current school fund shall be distributed to school districts as follows:

The state auditor shall set aside from the current school fund an amount not to exceed one hundred and fifty thousand dollars (\$150,000) each year for the following purposes:

(a) To assist any school district which does not maintain a state high or state graded school in maintaining its public schools, when a levy of fifteen (15) mills in such district does not raise five hundred dollars (\$500) for each school in session seven (7) months during the year, the state board of education may expend not to exceed two hundred dollars (\$200) for each such school.

(b) To make up for any deficit which may arise in payment of the annual funds to schools, or to special departments in certain schools.

(c) To pay the tuition of non-resident pupils enrolled in the industrial departments of state high, graded, or consolidated rural schools which have been designated by the state board to maintain courses and instruction in agriculture, home training (including cooking and sewing), manual training, and commercial training, and whose residence district does not provide courses and instruction of like kind.

SEC. 14. A high school student whose residence district provides high school courses of instruction shall not be entitled to free admission to the high school of any other district except by permission of the school board of such other district, or in accordance with the rules of the state board of education.

The rate of tuition shall be fixed by the state board of education, but not to exceed two dollars and fifty cents (\$2.50) per month for each non-resident pupil, nor more than nine (9) months in any school year.

No non-resident pupil shall be entitled to have any tuition made a charge against the state whose residence district furnishes courses and instruction in the industrial studies. Nor shall pupils from any associated district be counted for payment of tuition in the central school of the same district.

No tuition shall be charged any pupil resident of this state, who is enrolled in the high school department of any state high or graded school, except in the industrial departments above specified.

The state board of education shall make proper rules relating to enrollment, attendance, rates of tuition, payment of the endowment and current funds, on account of such non-resident pupils.

SEC. 15. The balance of the current school fund shall be distributed on the same basis and at the same time as the endowment fund.

SEC. 16. In case the state board of education referred to in this act shall not be provided by law, the authority herein granted to such board shall rest in the state high school board and the state superintendent of education in accordance with the provisions of existing law.

SEC. 17. Repealing Clause,—All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

APPENDIX D

EXTRACTS FROM THE EIGHTEENTH BIENNIAL REPORT OF THE STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

TABLE I¹

GROWTH OF PERMANENT SCHOOL FUND SINCE 1862

1862.....	\$ 242,531.00
1865.....	841,007.00
1870.....	2,426,240.00
1875.....	3,191,042.00
1880.....	4,449,725.00
1885.....	7,303,166.00
1890.....	9,241,119.00
1895.....	11,287,423.00
1900.....	12,546,529.00
1904.....	15,987,477.00
1906.....	17,824,135.00
1908.....	19,709,383.00
1910.....	21,002,571.00
1912.....	22,614,294.00
1914.....	24,668,248.59

TABLE II²

PERMANENT SCHOOL FUND, JULY 31, 1914 ACCUMULATIONS

Sales of lands.....	\$14,284,571.22
Amounts paid on forfeitures, right of way, etc.....	167,420.28
Sales of timber.....	6,727,720.87
Mineral permits and leases.....	308,300.77
Royalty on iron ore.....	2,818,665.51
Profits on sales of bonds.....	361,569.94
Total.....	\$24,668,248.59

TABLE III-A³

APPROPRIATIONS FOR PUBLIC SCHOOLS

	1914	1915
Aid for high and graded schools, including aid for industrial and training departments.....	\$706,500	\$1,064,500
Aid for consolidated, semi-graded, and rural schools.....	751,975	898,475
Public school libraries.....	31,500	31,500
Schools on reservations.....	10,000	10,000
Training schools, institutions, and examinations.....	44,000	44,000
Aid for common schools on account of state land.....	50,000	50,000
Total.....	\$1,593,975	\$2,098,475

¹ *Eighteenth Biennial Report of the State Superintendent of Public Instruction*, 11. Tables are numbered in consecutive order as they appear in this appendix, and not as they are numbered in the *Report*.

² *Ibid.*

³ *Ibid.*, 14.

TABLE III-B^a
INCREASES IN STATE AID

Annual aid for high schools increased from.....	\$1,750 to \$2,200
Graded schools from	600 to 750
High school training departments from	750 to 1,000
Industrial departments from	1,000 to 1,800

TABLE IV^b
APPORTIONMENT OF THE CURRENT SCHOOL FUND FROM 1864 TO 1914

YEAR	SPRING			FALL			TOTAL FOR YEAR	
	NUMBER PUPILS SHARING	RATE	AMOUNT	NUMBER PUPILS SHARING	RATE	AMOUNT	RATE	AMOUNT
1864	64,330	\$0.45	\$ 29,173.50	64,330	\$0.63	\$ 40,842.90	\$1.08	\$ 70,016.45
1865	74,695	.13	9,745.45	74,956	.61	45,728.65	.74	55,474.10
1866	87,244	.23	20,066.12	87,244	.67	58,453.48	.90	78,519.60
1867	102,118	.24	24,508.32	102,118	.66	67,397.88	.90	91,906.20
1868	114,618	.31	35,531.58	114,618	.70	80,262.90	1.01	115,794.48
1869	129,156	.40	51,662.40	129,156	.75	96,867.00	1.15	148,529.40
1870	143,745	.38	54,623.10	143,745	.85	122,183.25	1.23	176,806.35
1871	155,767	.24	37,384.08	155,767	.81	126,171.27	1.05	163,555.35
1872	168,980	.20	33,839.20	168,980	.76	128,424.80	.96	162,264.00
1873	180,271	.22	39,659.62	180,271	.74	133,400.54	.96	173,060.16
1874	196,188	.25	49,047.00	196,188	.73	143,217.24	.98	192,264.24
1875	210,450	.22	46,299.00	210,450	.69	145,279.50	.91	191,578.50
1876	214,902	.27	58,023.54	215,127	.71	152,740.32	.98	210,763.71
1877	152,585	.35	53,397.75	152,692	.96	146,584.32	1.31	199,982.07
1878	157,970	.35	55,289.50	158,229	1.00	158,299.00	1.35	213,518.50
1879	161,445	.34	54,891.30	162,657	1.09	177,296.13	1.43	232,187.43
1880	165,521	.40	66,208.40	167,525	1.10	184,277.50	1.50	250,485.90
1881	173,600	.40	69,440.00	173,996	1.10	191,395.60	1.50	260,835.60
1882	177,278	.33	58,501.74	178,131	1.17	208,413.27	1.50	266,915.01
1883	190,901	.43	82,087.43	191,873	1.15	220,653.95	1.58	302,740.38
1884	201,649	.39	78,643.11	202,219	1.33	268,936.64	1.72	347,579.75
1885	215,122	.38	81,746.36	225,214	1.06	238,727.90	1.44	320,474.26
1886	225,930	.42	94,890.60	243,059	.93	226,044.87	1.35	320,935.47
1887	243,645	.52	126,695.40	245,381	.95	233,111.95	1.47	359,807.35
1888	245,875	.72	177,030.00	212,490	2.66	565,233.40	3.38	742,253.40
1889	213,066	1.05	223,719.30	214,568	3.07	658,723.76	4.12	882,443.06
1890	215,755	.61	131,610.55	221,186	3.70	818,388.20	4.31	949,998.75
1891	221,522	.90	199,670.56	227,966	3.20	729,491.20	4.10	929,161.76
1892	228,676	1.22	278,984.72	233,293	3.40	793,196.20	4.62	1,072,180.52
1893	223,685	.96	224,337.60	244,794	3.00	734,382.00	3.96	958,719.60
1894	245,245	1.15	282,031.75	275,468	2.75	757,537.00	3.90	1,039,568.45
1895	276,193	1.15	317,621.95	291,105	2.65	771,428.25	3.80	1,089,050.20
1896	291,776	1.00	291,776.00	293,966	2.00	852,501.40	3.90	1,144,277.40
1897	294,267	1.00	294,267.00	309,019	2.50	772,547.50	3.50	1,066,814.50
1898	309,586	.80	247,668.80	324,651	2.15	697,999.65	2.95	945,668.45
1899	325,013	.90	292,584.28	324,678	2.73	888,023.16	3.63	1,180,607.44
1900	325,766	1.25	407,436.82	341,176	2.65	904,129.65	3.90	1,311,566.47
1901	341,609	1.25	427,512.10	343,463	1.85	635,406.55	3.10	1,062,918.65
1902	343,662	1.30	446,760.60	353,729	2.00	707,458.00	3.30	1,154,218.60
1903	353,918	1.30	460,093.40	352,607	2.30	810,996.10	3.60	1,271,089.50
1904	352,867	1.45	511,657.15	364,592	2.20	802,102.40	3.65	1,313,759.55
1905	365,090	1.50	547,635.00	375,166	2.30	862,881.80	3.80	1,410,516.80
1906	375,289	1.70	637,991.30	378,246	2.29	866,183.34	3.99	1,504,174.64
1907	378,251	1.60	605,201.60	374,919	2.50	937,297.50	4.10	1,542,499.10
1908	375,088	1.90	712,667.20	381,674	2.70	1,030,519.80	4.60	1,743,187.00
1909	381,875	1.80	687,348.00	386,654	3.00	1,160,007.00	4.80	1,847,355.00
1910	386,599	1.90	734,472.10	396,599	3.00	1,189,817.90	4.90	1,924,290.00
1911	396,706	1.90	753,741.40	399,132	3.00	1,197,396.00	4.90	1,951,137.40
1912	399,121	2.00	798,242.00	403,491	3.30	1,331,520.30	5.30	2,129,762.30
1913	403,470	2.00	806,940.00	402,941	3.60	1,450,587.60	5.60	2,257,527.60
1914	403,141	2.20	886,910.20	412,446	3.60	1,484,805.60	5.80	2,371,715.80
Total								\$41,702,456.45

^a Eighteenth Biennial Report of the State Superintendent of Public Instruction, 14^b Ibid., 12.

TABLE V⁶
SUMMARY FOR LAST FIFTY-TWO YEARS

YEARS	NUMBER OF PUPILS ENROLLED IN ALL PUBLIC SCHOOLS	NUMBER OF SCHOOLS RECEIVING SPECIAL STATE AID						
		HIGH SCHOOLS	GRADED SCHOOLS	CONSOLIDATED SCHOOLS	SEMI-GRADED SCHOOLS	FIRST CLASS RURAL SCHOOLS	SECOND CLASS RURAL SCHOOLS	CLASS C RURAL SCHOOLS
1862	32,560							
1864	44,787							
1866	50,564							
1868	81,696							
1870	105,590							
1872	120,352							
1874	128,902							
1876	151,866							
1878	162,551							
1880	180,248							
1882	196,574	38						
1884	223,209	53						
1886	252,053	58						
1888	253,894	57						
1890	280,960	62						
1892	300,333	69						
1894	342,761	85						
1896	354,657	86	87					
1898	384,063	100	97			457		
1900	399,207	115	110		190	662		
1902	414,671	141	119		243	747		
1904	423,663	162	145		270	835		
1906	431,690	192	142		309	1,094	492	
1908	430,748	206	152		340	1,305	632	
1910	440,082	206	165		399	1,860	1,127	
1912	446,083	211	201	32	435	2,453	1,396	555
1914	457,041	215	222	80	463	3,208	1,435	745

TABLE VI⁷
SPECIAL AID SUMMARY

KIND OF SCHOOL OR DEPARTMENT	YEAR ENDING JULY 31, 1914			YEAR ENDING JULY 31, 1914		
	NUMBER OF SCHOOLS AIDED	TOTAL AMOUNT PAID	DEFICIT FOR EACH SCHOOL NOT PAID	NUMBER OF SCHOOLS AIDED	TOTAL AMOUNT PAID	DEFICIT FOR EACH SCHOOL NOT PAID
High schools.....	216	\$378,000.00		215	\$471,951.00	
Training departments.....	80	60,000.00		105	102,842.00	
Agricultural and industrial departments.....	105	147,322.68		136	268,840.64	
Association.....		18,950.00			42,950.00	
Graded schools.....	217	130,200.00		222	165,394.27	
High school departments..	59	29,500.00		69	34,500.00	
Consolidated schools:						
Class A.....	36	48,300.00	\$150.00	52	74,100.00	\$75.00
Class B.....	2	1,800.00	100.00	3	2,850.00	50.00
Class C.....	20	13,500.00	75.00	25	17,800.00	38.00
Building.....		36,751.00			26,138.00	
Semi-graded schools.....	451	121,700.00	30.00	463	131,955.00	15.00
Rural schools:						
Class A.....	2,913	393,255.00	15.00	3,208	455,536.00	8.00
Class B.....	1,394	125,460.00	10.00	1,435	136,325.00	5.00
Class C.....	688	46,784.00	7.00	745	52,895.00	4.00
Total.....	6,181	\$1,551,522.68		6,678	\$1,984,076.91	
Total amount of deficit			\$86,756.00			\$49,070.90

⁶ *Ibid.*, 13.

⁷ *Ibid.*, 27.

TABLE VII-A^a

STATE AID TO HIGH SCHOOLS YEAR ENDING JULY 31, 1913

216 High schools, \$1,750 each.....	\$378,000.00
80 Training departments, \$750 each.....	60,000.00
28 Agricultural departments, \$1,817 to \$2,500 each.....	67,646.00
66 Industrial departments, \$1,000 each.....	66,000.00
Association (to central schools) \$150 each.....	14,250.00
Association (to district schools) \$50 each.....	4,650.00
	<hr/> \$590,546.00

TABLE VII-B^a

HIGH SCHOOLS, YEAR ENDING JULY 31, 1914

215 High schools, \$1,930 to \$2,200 each.....	\$471,951.00
105 Training departments, \$795 to \$1,000 each.....	102,842.00
37 Agricultural departments, \$1,712 to \$2,500 each.....	90,253.00
81 Industrial departments, \$1,800 each.....	145,800.00
Association (to central schools) \$150 each.....	34,800.00
Association (to district schools) \$50 each.....	8,050.00
Total.....	<hr/> \$853,696.00

TABLE VIII-A¹⁰

GRADED SCHOOLS, YEAR ENDING JULY 31, 1913

217 Graded schools, \$600 each.....	\$130,200.00
59 High school departments, \$500 each.....	29,500.00
9 Industrial departments, \$1,000 each.....	9,000.00
2 Agricultural schools.....	4,676.68
1 Associated district, \$50.....	50.00
Total.....	<hr/> \$173,426.68

TABLE VIII-B¹¹

GRADED SCHOOLS, YEAR ENDING JULY 31, 1914

222 Graded schools, \$581.22 to \$750 each.....	\$165,394.27
69 High school departments, \$500 each.....	34,500.00
16 Industrial departments, \$1,365.08 to \$1,800 each.....	28,356.29
2 Agricultural departments, \$2,100.00 to \$2,500 each.....	4,431.35
2 Associated districts, \$50 each.....	100.00
Total.....	<hr/> \$232,781.91

TABLE IX-A¹²

STATE AID TO CONSOLIDATED SCHOOLS, YEAR ENDING JULY 31, 1913

36 Class A schools, \$1,050 to \$1,350 each.....	\$48,300.00
2 Class B schools, \$900 each.....	1,800.00
20 Class C schools, \$675 each.....	13,500.00
Building aid.....	36,751.00
Total.....	<hr/> \$100,351.00

^a *Eighteenth Biennial Report of the State Superintendent of Public Instruction, 27*¹⁰ *Ibid.*, 34.¹¹ *Ibid.*, 30.¹² *Ibid.*, 37.¹³ *Ibid.*, 40.

TABLE IX-B¹³

CONSOLIDATED SCHOOLS, YEAR ENDING JULY 31, 1914

52 Class A schools, \$1,425 each.....	\$74,100.00
3 Class B schools, \$950 each.....	2,850.00
25 Class C schools, \$712 each.....	17,800.00
Building aid.....	26,138.00
Total.....	\$120,888.00

TABLE X-A¹⁴

SEMI-GRADED SCHOOLS, YEAR ENDING JULY 31, 1913

451 Schools, \$270 each.....	\$121,700.00
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TABLE X-B¹⁵

SEMI-GRADED SCHOOLS, YEAR ENDING JULY 31, 1914

463 Schools, \$285 each.....	\$131,955.00
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TABLE XI-A¹⁶

CLASS A, YEAR ENDING JULY 31, 1913

2,913 Schools, \$135 each.....	\$393,255.00
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TABLE XI-B¹⁷

YEAR ENDING JULY 31, 1914

3,208 Schools, \$142 each.....	\$455,536.00
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¹³ *Ibid.*, 50.¹⁴ *Ibid.*, 41.¹⁵ *Ibid.*, 51.¹⁶ *Ibid.*, 43.¹⁷ *Ibid.*, 52.

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VITA

Raymond Asa Kent was born at Plymouth, Iowa, on July 21, 1883. He graduated from the public schools of Fayette, Iowa, in 1899; received the degree of A.B. from Cornell College, Mt. Vernon, Iowa, in 1903; attended Drew Seminary, Madison, New Jersey, during the years 1903-4 and 1907-8; received the degree of M.A. from Columbia University in 1910.

He was principal of the graded public school at Fountain, Minnesota, during 1904-5; Superintendent of Schools at Mabel, Minnesota, 1905-7; at Lanesboro, Minnesota, 1908-9; instructor in mathematics, State Normal School, Winona, Minnesota, 1909-11; Superintendent of City Schools, Winona, Minnesota, 1911-13; Secretary of Minnesota Public Education Commission, 1913-14; Principal of University High School and Assistant Professor of Education, University of Minnesota, 1914-16; Superintendent of City Schools, Lawrence, Kansas, and Professor of Education, University of Kansas, 1916 to date.

He has published the following: Professional Training of Public School Teachers in Minnesota, *School Education*, March, 1909; The State High School Field, *School Education*, March and April, 1916; Practice Teaching at the University of Minnesota, *School and Society*, 4:140; The Kansas School Day, *The Kansas Teacher*, June, 1917; Current Literature in the Homes of High School Pupils, *Kansas Teacher*, March, 1918.

79.12 Kent, R.A. 266806
37 A study of state aid to public schools
in Minnesota. 1918.

266806

A study of state aid to public schools in Minnesota. 1918.

NAME	DATE	NAME	DATE
W.D. Lawrence	FEB 20 1934		
W.D. Lawrence	4/24		
W.D. Lawrence	2/24		
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